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ION Vehicle Purchase Next Step in GRT's Light Rail Plans



Zac Young

The FLEXITY Freedom is also being used by Toronto's new LRT system.

JACOB TERRY
3A NANOTECHNOLOGY

The Region of Waterloo voted on July 11 to approve the purchase of 14 Bombardier Flexity Freedom light rail vehicles for use in ION, their rapid transit network that has been in planning stages for a few years. Anyone following the light rail transit (LRT) developments in Toronto would recognize the vehicles, as they are also being used for the Eglinton Crosstown LRT and the other LRT routes in Toronto that are being planned with Metrolinx, the government agency tasked with coordinating transit projects in the Greater Toronto and Hamilton Area. The Region chose to display a model

of the vehicle, as well as one of their redesigned GRT buses, at an open event on the following Saturday.

Like the Toronto streetcar replacements, which are Bombardier Flexity Outlook models, the Freedom makes use of overhead wires. The Freedom has 100% low-floor seating, so all parts of the vehicle should be accessible to people who have mobility concerns. The car consists of five modules, overall containing 56 fixed seats, with a capacity of 200 people. ION is supposed to come every seven and a half minutes during rush hour. The Freedom is also able to combine cars together to form up to four-car trains, which would have a capacity of 400 people per train. The vehicles will be built

starting next year, with vehicle delivery starting Summer 2016 until December of the same year.

Construction on the ION rail bed will be started next year, and the first stage is expected to be completed by 2017. The first stage will begin at Conestoga Mall in Waterloo and end at Fairview Park Mall in Kitchener, while the second stage will start at Fairview Park Mall and end at Ainslie Terminal in Cambridge. As the first stage of ION operations, the second stage will use an adapted bus rapid transit (aBRT) network until its rail line is built, likely using the current 200 iXpress service that covers the route.

The stations on the ION have changed since last year, adding more stops in Water-

loo than previously planned. Starting from Conestoga Mall, the following stops are Northfield Drive, Research and Technology Park, University of Waterloo, Seagram Drive, Uptown Waterloo and King / Allen, before continuing down the currently existing iXpress route for the majority of the remaining route. From Northfield Drive to Uptown Waterloo, the ION will use the rail line currently used by the quaint railway and industrial trains that goes past Engineering 5. A noticeable change in Kitchener will be the addition of the Transit Hub at the corner of King and Victoria, which is currently served by the Victoria stop on the iXpress.

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Student Deals Program Announced by EngSoc

JACOB TERRY
3A NANOTECHNOLOGY

The Waterloo Engineering Society has unveiled a new student deals program where Engineering Society members will receive discounts and other specials from locations in Waterloo. To receive these discounts, students must visit the Engineering Society Office in CPH 1327 with their WatCard, where a staff member will verify that they are fee-paying members of the Engineering Society and provide them with a sticker that proves their membership. Students who haven't paid fees will not be eligible, and if a student visits the office to return their fees, the sticker will be removed from their card if they previously received one.

The idea was first discussed by then newly-elected Vice-President Operations Angela Stewart and Vice-President Finance David Birnbaum in the summer of 2011, but spent some time in stasis before being introduced again as one of Birnbaum's election platform points for his presidency of the

Society in the last fall term. In winter, a call went out for volunteers to work on special initiatives for the Engineering Society, one of which was for the discount deals project. Since then, engineering students Aryn Cain and Tiffany Mah have been working with businesses to set the project in motion.

The primary focus so far has been targeting businesses in the University Shops Plaza and Campus Court, however, in the upcoming terms they hope to reach out to more businesses in the areas around the university. The University Commons plaza at University and King and places in Uptown Waterloo are likely to be upcoming places for future partnerships.

This deal sounds great for engineering students, but businesses also get an advantage from participating in the program. The direct benefit received is the form of advertisement through the Engineering Society website, periodic advertisement through other media, and discounted rates in *The Iron Warrior*.

Continued at DISCOUNTS on Page 4

Feds General Meeting Ends With Controversial Motion

LUCAS HUDSON
3A MECHATRONICS

The Feds General Meeting last Tuesday was, some might say, rather "unique." Besides the fact that it was really two general meetings rolled into one, there were many polarizing motions brought forward that seemed to literally split the room in two. The controversial nature of some of the motions prompted me to seek the opinions of both the Feds executives as well as the Engineering Society executives. I requested an interview with the President of Feds David Collins, but unfortunately he was not available for an interview. I was able to talk with Natasha Pozega, Feds VP Operations and Finance; David Birnbaum, President of the Engineering Society and Feds Board of Directors voting member; and Kevin McNamara, VP Finance of the Engineering Society.

The first of two general meetings was a continuation of the regularly scheduled March General Meeting. A successful motion in the March General Meeting ad-

joined the meeting only to have it resume July 16. The only thing left on the agenda was an amendment to the current bylaws, changing the composition of the Feds Board of Directors from "...four (4) Executive, five (5) Directors elected from the full members of the Students' Council" to "...four (4) Executive, two (2) Councillors, and five (5) other full members of the Corporation." This amendment was amended by both David Collins and Jesse McGinnis, with both amendments slightly changing the composition of the Board of Directors, and both amendments being struck down by the general meeting's attendees. Natasha supported the idea of adding at-large students to the Board of Directors, stating that "having more opinions at the table, it's better student representation." David Birnbaum also supported adding elected students to the board and believes the Board is "too skewed towards the [Feds] executives having a lot of power...[and is] always in favour of more students being on the board."

Continued at FEDS on Page 5

Letter From the Editor

Thank You and Don't Forget to be Awesome



LUCAS HUDSON
EDITOR-IN-CHIEF

The GOOD NEWS I bring to you today is brought to you with a bit of a heavy heart. This is the fifth and final issue of the Spring Term and my last issue as Editor-in-Chief. I want to start off by thanking everyone who help put together the newspaper each issue. I know I have said this multiple times before, but the newspaper is nothing without the help of all the dedicated writers, copy editors, layout editors, and photographers.

I want to specifically thank Nancy Hui, Farzi Yusufali, Leah Kristufek, Jacob Terry and Spenser Good for their incredible effort in copy editing. I relied on them, along with the help of others, for finding all the spelling and grammatical errors. You can go yell at them if you find any mistakes in the issues this term.

I want to extend a huge thank you to Krishna Iyer for helping out with layout editing this term. He has spent countless hours in *The Iron Warrior* Office placing the articles in the newspaper. Several newspapers would have been late without his help. I would also like to thank Jacob Terry, Farzi Yusufali and Spenser Good for helping with layout as well. The fifth issue especially would not have come together without all of their help.

To all writers who put all the effort into writing intelligent, thought provoking articles; I thank you for being diligent in your research. To those who wrote articles that work towards making us laugh, thanks for lifting our spirits and reminding us that a newspaper doesn't always have to be full of dreary stories. Thanks to Stuart Linley as well for providing such great crosswords! It is the diverse content that makes *The Iron Warrior* so great.

Another group of people that make the newspaper great are those who comb through the draft PDFs for last minute spelling and grammatical errors along with layout inconsistencies. I would like to thank Jacob Terry and Catherine Heymans for looking over each issue, reminding me to italicize *The Iron Warrior* and pointing out that I haven't changed the preview pictures on the front page yet. The quality of the newspaper significantly increases after you look at it and I am very thankful for your hard work.

Other large contributors to the newspaper were Mary Bland and EngSoc Executives; David Birnbaum, Kevin McNamara, Drew Dutton, Leila Meema-Coleman, Brendan O'Hanlon and Annamaria Reda. Mary Bland made sure all our finances were kept track of, archived each issue, and also mailed out the issue to who-knows-where. Without her this newspaper would not exist. Thank you for all your help and guidance.

The EngSoc staff were AMAZING at getting articles in on time this term, something that not every EIC can say. Leila was especially great at getting her articles in on time, getting them in days in advance.

To complete the long list of thank yous I want to thank anyone who has stopped by the office during a production weekend. It can sometimes get lonely in the windowless E2 2347 room and any company was always welcome. This weekend especially was wonderful on Saturday when the office was full of awesome people, working on the newspaper, having fun, and laughing. I could not ask for a better group of people to work on a newspaper with. A big thanks to Catherine Heymans and Ioana Craiciu for dropping by the office most production weekends, dragging me out of the office and keeping me sane.

I lied, there is one more group of people I want to thank. YOU! The readers! What is a newspaper without people who read it. It is because of you I had this great opportunity and I hope you continue to read for years to come. I think *The Iron Warrior* is one of the best engineering newspapers in Canada and it's because of your support that we've developed into what we are today. Thank you!

I will also take this time to announce the winner of the Iron Pen Award and the Editor's Award. The Iron Pen Award winner is Nancy Hui with 13 562 words! Nancy blew away the competition, she probably could have stopped writing after the third issue and still won the Iron Pen Award. Congratulations Nancy! Without your massive word count it would have been much harder to fill the newspaper. I hope everyone has learned much about vaccines this term, since I think half of Nancy's articles has something to do with that topic.

I would also like to announce Krishna Iyer as the recipient of the Editor's Award. Like I said before, Krishna was a huge help when it came to layout. While I might not always agree with his layout style, Krishna is always there if you need to laugh or smile. He has spent more time than I could ask one person to stare at this newspaper. You have been a great help this term Krishna, I would have not been able to make it through without you!

I have absolutely LOVED being the Editor-in-Chief of the *The Iron Warrior*. I would do this all over again at the drop of a hat. Unfortunately, that is not possible as I must pass on the torch and give someone else the opportunity to take charge of the best Engineering newspaper in the country. Everyone please congratulate Spenser Good on becoming the Winter 2014 Editor-in-Chief. Spenser has been with the newspaper since his 1A term and has written many great articles for the newspaper. He has shown great dedication to the newspaper and I believe he will continue to improve the newspaper and continue *The Iron Warrior's* great reputation.

Good luck Alex Lee, the Fall, 2013 Editor-in-Chief. I think you will do a great job running the newspaper. If you ever get lost, don't forget you have a very experienced team around you, willing to help you whenever you need it.

I will truly miss seeing everyone at our weekly meetings. It has been my pleasure to get to know everyone involved in *The Iron Warrior*. I can say without hesitation, that you are all amazing people and I wish I could get to know all of you better. Being Editor-in-Chief has also given me the unique opportunity to meet more people in Engineering this term than I have in my previous two terms at school. I have been more involved in the Engineering Society than ever before and I got to see all the passionate people that help run our Society and host all our great events. From things like EngSoc at THEMUSEUM to the Toronto Pride Parade, Enginuity, Purplepalooza, and EngPlay, it's easy to find people with a wide range of interests and passions. I am sad that many of the people I have come closer to will be heading off to co-op soon and I will likely not talk to them until the Winter term, that is if you aren't going on an exchange or have a crazy eight month co-op. It also saddens me that a lot of people I have met will also be graduating in 2014. I just had the chance to get to know all of you and you're already leaving. I wish I would have become involved a lot earlier in my Waterloo career. I want to say it was a pleasure meeting all of you and I hope I continue to meet more awesome people within Engineering and in other faculties as well!

As I have EngPlay on the mind, I want to congratulate the directors, actors, and crew on a fantastic production. The quality of production put together in such a short time is amazing. The musical was both funny and a great commentary on modern relationships. I was particularly moved by last three acts of the play. My favourite line from the play comes from the second last act; "[you have] That look of someone who has lost the person they've spent their life with." A lovely yet depressing sentiment showing how another person's life can have such an influential effect on someone else's that it permanently changes them, etching themselves into your soul. Anjali and David did a wonderful job with that scene.

So here we are, the last newspaper is laid out, all the articles are copy edited and beautiful. My last editorial where I can ramble on about nothing and have the guarantee that it makes it into the newspaper. No longer can I rant about whiny Engineering students or talk about random people on the internet without knowing what point I am trying to make. I am sorry if I missed someone in my series of thank you. Just because you were not mentioned explicitly here doesn't mean I am not grateful of everything you've done. Thank you and, as always, don't forget to be awesome!

THE IRON WARRIOR

The Newspaper of the University of Waterloo Engineering Society

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Send your submissions to iwarrior@uwaterloo.ca

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

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

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

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Derelict Detroit's Final Breath

A Profile on America's Sad Sack City



SPENSER GOOD
3A MECHANICAL

On July 19, 2013, the City of Detroit petitioned to declare bankruptcy. Here is a look at the now-dilapidated Motor City.

"Enter Detroit at your own risk." This was the official message behind a protest by Detroit police officers made last October outside of a Detroit Tigers Major League Baseball game. Although virtually everyone knew that many parts of Detroit are subject to anarchy already, this official admission by the force responsible for keeping the city safe came as a stark message even to those most familiar with the city. In 2012 alone, Detroit experienced 411 homicides; in a city the size of Toronto, this would translate to over 2000 homicides per year. This, accompanied by a homicide clearance rate hovering around 12% means that you can get away with murder in Detroit (actually, you can get away with pretty much anything considering an overall case clearance rate of 8.7%). The city also experiences the second highest violent crime rate in the entire United States, second only to Flint, Michigan, which is a satellite city of Detroit devastated by the same economic factors which have killed the Motor City. It's hardly surprising that Detroit suffers from a high crime rate, considering that on average it takes a police officer 58 minutes to respond to an emergency, compared to a national average of 11 minutes in the United States and 8 minutes in Waterloo Region. There is little deterrent to committing a crime in a city where you are probably not going to get caught in the act, and it is just as unlikely that you will be caught after committing the crime. However, crime is only one of Detroit's many threats.

At one point, Detroit was home to 2 000 000 people. Now the city provides residence to under 700 000, a startling exodus of close to 75% of its original population. Unfortunately for the city, these people left behind the homes they lived in, the schools they attended, the factories they worked in, and all the other buildings that it takes to run a city. According to reports, approximately one third of all of Detroit (which covers 363 square kilometers) is vacant or derelict. Of the 90 000 abandoned homes in Detroit,

67 000 have been rendered completely valueless by pillagers collecting scrap metal, wiring, and useful plumbing from the house. These empty shells of houses stand as invitations for squatters, drug dealers, and, as covered later in this article, arsonists. Each of these buildings costs an average of \$8000 to demolish, leaving the cashless city little choice but to let these homes remain a haven for some of America's darkest behavior. Of course, this behavior is conducted by a population that was never given much chance in life and are disadvantaged, to say the least.

To illustrate this fact a shocking report released by the National Institute for Literacy in May 2011 revealed that 47% of all Detroit residents are "functionally illiterate." To add some comparison and to further illuminate the blight of Detroit, this literacy rate is just 1% higher than that of Haiti and is significantly lower than that of impoverished nations Mozambique, Ivory Coast, and Bangladesh. These horrendous numbers can be largely attributed to abysmal public schools. In 2009, Detroit Public School students recorded the lowest scores on the national math proficiency test ever recorded nationwide over the test's 21 year history. They also tied Washington, D.C. for last place nationwide in reading skills measured in the eighth grade. In 2011, the school system patted themselves on the back for attaining a high school graduation rate of 62%, the highest recorded in four years. Of course, further investigation revealed that the term "graduation" is relevant. Despite slightly less than horrible graduation rates, only 1.8% of graduating students from Detroit public schools were deemed ready for college-level work. With such poor education, it is little wonder that the overwhelming majority of students who get screwed over by the public school system turn to drugs, crime, and the other scourges that have killed Detroit. It is even less surprising that those students, who actually survive the school system and manage to move on to a career, immediately leave Detroit, where jobs, opportunities, and public services are virtually non-existent.

To understand the dismal state of Detroit's public services, we need only to look at one of the most important services any city can provide to its citizens: firefighting. In recent years, one third of the Detroit Fire Department has been shut down due to

budget cuts. 500 fire fighters have been laid off over the past five years and fire chiefs endlessly complain of equipment being held together with "duct tape and bubblegum." Eight now vacated fire stations are being sold to private investors in an effort to raise money for the beleaguered city. Of course, the results from the ravaging of the city's fire department has been further anarchy. Detroit has been relabeled by many as "the City of Fire." In 2012, Detroit suffered from an astounding 5000 cases of arson: 14 per day. With such a poorly staffed fire and police service, only one in five of these cases are ever even investigated, and it is doubtful that many of these cases are actually solved. Last year, the city suffered \$200 million in property damage due to arson. The incredibly high arson rates have led to insurance quotes in Detroit that are three times higher than for homes located in less crime-ridden suburban areas. This does little to help Detroit's atrocious housing market.

In an effort to limit the length of this article, I have simply listed some other startling facts about the Motor City to further underline the extent of Detroit's blight: currently, the unemployment rate of Detroit is more than 18% (however most officials believe it is actually closer to 50% if including part-time workers and those who have given up looking for jobs), 60% of children in Detroit live below the poverty line, the median price of a home in Detroit

is just \$9,000, and there are still many areas in Detroit where you can buy a house for less than \$100. Two out of every five streetlights are broken, out of a total of 95 000, the city has over a third more retired workers than it does workers paying into the system, and, perhaps most startlingly of all, 28% of Detroit's population has left since the turn of the new millennium. This list could easily be much longer.

There is no doubt that Detroit is dead. The only question remaining for many is how did this city possibly retain a line of credit for so long before petitioning to declare bankruptcy? Regardless, Detroit will never be the economic powerhouse it was in the post-WWII years. The road for reviving Detroit will be a long one and it will take honest political leadership, economic innovation, investment from longtime corporate partners (i.e. General Motors, Ford, etc.), and a focus on stemming the current banes of the city: drugs, corruption, violent crime, poor public education, and poverty. Detroit remains a symbol for the industrialized world of the dangers of letting a city fall to devastating market trends. There is little doubt that residents of the city hope that the declaration of bankruptcy will mark the end of Detroit's fall, and that revitalization can now begin to take place. For now, however, Detroit remains an embarrassment for America: a drug infested, crime ridden, apocalyptic hellhole that has been ignored for far too long.



CBC

A vacant home, covered in spray paint, in an eastern neighbourhood in Detroit

Loblaws Acquires Shoppers Drug Mart



ANDREW MCMAHON
3A ENVIRONMENTAL

On July 15, it was announced that Loblaw's, the largest grocery retailer in the country, would acquire Shoppers Drug Mart, the country's biggest pharmacy chain. The deal between the two retail giants will cost the Toronto based company an estimated \$12.4 billion. To give a frame of reference for the financial magnitude of this deal, last summer the Canadian oil and gas company Nexen was acquired by CNOOC Ltd. based in Beijing for \$15.1 billion. This Loblaw's deal is worth almost as much as that one, but unlike oil and gas companies which carry outrageous price tags, here we are dealing with two Canadian companies whose main interests are groceries and pharmaceuticals.

The deal will add 1242 Shoppers Drug Mart and Pharmaprix locations to the 22 banners the company already operates,

which include: Extra Foods, NoFrills, Real Canadian Superstore, T&T Supermarket, Wholesale Club, Zehrs, Independent, Valu-Mart, Fortinos, Provigo, Maxi, SaveEasy, and Atlantic Superstore. Loblaw's is not the only supermarket chain making moves in an attempt to compete with megastores such as Wal-Mart and Target, the latter of which just opened its doors in Canada in March of this year. Sobeys reached a deal with Safeway to buy more than 200 of its stores in Western Canada last month for \$5.8 billion.

Shoppers Drug Mart stores will not change their name; instead they will be operating as a separate company while adding selected Loblaw's products to its shelves. In recent years, Shoppers Drug Mart has been decreasing its reliance of sales of pharmaceuticals and focusing more on common items such as food and cosmetics. In 2012, the store reported that 51% of its sales came from non-pharmaceutical items. The deal with Loblaw's should give the chain an opportunity to continue to diversify the products that they offer while maintaining the

name of their stores. Consumers will now have the ability to find President's Choice Products at Shoppers Drug Mart and Life brand products at Loblaw's.

The takeover will also not result in any store closures or layoffs of Shoppers Drug Mart employees, as was stated last Monday at a press conference. Grocers all over the country are catching on to the fact that at this point it is foolish to try to follow a Wal-Mart retail model and instead are promoting a health and wellness model. For example, Metro has expressed interest in a similar grocery-pharmaceutical partnership with Jean Coutu.

Part of the attraction for Loblaw's in this deal was an opportunity to penetrate seemingly saturated urban markets in which a number of Shoppers Drug Mart locations exist. In these locations, constructing an enormous supermarket isn't practical and instead, they hope to take advantage of the ability to have their products on display to urban residents who use Shoppers Drug Mart as their convenience store. This small store strategy differs from the company's

obvious strength of providing a one stop shopping experience but gives the two companies involved in the deal the opportunity to complement each other and build on their successes. Loblaw's continues to diversify their company with the additions of banking (President's Choice Financial), clothing (Joe Fresh), discount grocery stores (NoFrills), and now pharmaceuticals. Let's not forget that Maple Leaf Gardens became the chain's most breathtaking superstore in November of 2011 when they finished converting the historic hockey landmark into an urban shopping experience unlike any that Toronto shoppers had seen before. With this landmark opening the company made it clear to Canada that they were willing to step outside the box in order to provide a new shopping experience.

The deal still needs the approval of a minimum of two-thirds of the votes cast by Shoppers Drug Mart shareholders at a special meeting expected to take place in September. The requirement of this approval is a product of the number of shares being issued as a result of the deal.

Train Derailment and Boeing Crash Under Investigation



LEAH KRISTUFEK
2B CHEMICAL

Disasters happen suddenly, seemingly without warning. In a disaster, order gives way to chaos. On July 6 two disasters occurred practically in our own back yard and in retrospect they may have been avoidable. In the day's early hours a train carrying 72 oil tanker cars rolled unmanned down 11 km of track derailing in the idyllic Quebec town of Lac-Mégantic. The ensuing fireball is believed to have killed 50, many of whom were still enjoying their Friday night celebrations at a popular local bar. Later that day three teens died after a Boeing 777 flying from Seoul, South Korea crash landed at San Francisco International Airport. In both cases, routine transportation went suddenly and catastrophically wrong.

It is events like these which remind us why we get our Iron Rings. Like many professionals we have a responsibility to the people who are affected by our work. The question being asked now is the natural one; if we were to travel back in time, could these disasters have been prevented? Is there potential for new rules that could keep this type of disaster from ever happening again?

Blame for the runaway train is now being directed towards the engineer who was in charge. In the late evening of July 5, he parked the train in Nantes, the town neighbouring Lac-Mégantic. A fire at 12:15 a.m., approximately 40 minutes after the train's engineer had gone to a local hotel to sleep, may have caused the power systems on the train to be turned off. This would also stop the compressors which are responsible for maintaining the required pressure in the air brakes. A gradual pressure decrease from the 125-140 psi of an engaged air brake to around 70-90 psi at which the brakes release may explain why it wasn't until 1:30

in the morning that the train began to roll towards Lac-Mégantic. It is common practice in this situation to apply hand brakes on individual cars. The train engineer claims to have set 11 hand brakes to hold the train before leaving, a statement which his company is now publicly disputing. Although the black box has been recovered, the extent of damage caused by the intense flames after the train's derailment means it will be some time before facts replace speculation.

One potential solution being proposed by Edward Burkhardt, president and CEO of Rail World Inc., the American parent company of Montreal, Maine & Atlantic Railway (MMA), is to stop the practice of leaving trains unmanned. This means they will require someone to be on the train at all times, including when it is waiting overnight for a new crew. Burkhardt also defended the company practice of running most trains with only a single person crew.

Tighter regulations will undoubtedly result from this disaster, as well as a more somber look at the state of railway transportation in this country. Of particular interest is the fact that, according to *The Globe and Mail*, in June of this year a tanker wagon spilled 13 000 liters of diesel near Lac-Mégantic. Was the rail track itself improperly designed? Should there even have been a railway track so close to the historic downtown of this small town? Should regulations for train track proximity to urban populations be reconsidered?

The human side of this disaster is especially horrific. Even several days after the derailment and subsequent explosions the site was too hot for proper investigation. As time passed the list of missing was whittled down to 50 presumed dead. In this town of only 6000 people that number is felt throughout. Remains being removed from the site are unrecognizable and police were forced to ask family members for combs and other personal items that might allow DNA identification of the deceased. Genevieve Guilbault, spokesperson for the

Quebec coroner's office, admits that due to the intensity of the explosion some of the bodies may never be found. Many of the dead were likely celebrating the beginning of the weekend at Musi-Café, a local pub which hosted live music. On the day of the derailment there was a birthday party in progress. Some of the attendees were parents whose children were away from the disaster site with babysitters or grandparents.

In addition to the horrific loss of life, this disaster will likely pique already heated political debates around the oil sands. The majority of the tank cars held crude oil. Currently, transportation by train is considered preferable to pipelines for crude oil transportation from places like the Alberta oil sands.

Now let us look at the second disaster that occurred on July 6, the crash of Flight 214 from South Korea to San Francisco. The plane crashed into the sea wall while landing after 10 hours and 23 minutes in the air without incident. Shortly after coming to a rest on the tarmac, a visible fireball destroyed the top of the aircraft. Preliminary analysis seems to suggest that airspeed was to blame for the crash landing. An article on the website of tech magazine *Wired* notes that the plane was approximately 35 miles per hour below the targeted landing speed of 157 miles per hour. The fact that the pilots did not notice this substantial descent below the targeted airspeed is highly unusual given that all the important systems for flying the plane seemed to be completely operational. The plane crash may be the product of pilot error after a long exhausting flight. *Wired* points to the fact that the pilot flying the plane at the time was just finishing his transition training to a Boeing 777 from an Airbus A320. The two airplanes have different set ups for manual flight, which would be in use when landing and may have caused confusion.

After the disaster, Deborah Hersman, Chairman of the National Transportation Safety Board remarked that safety fea-

tures built into the planes design worked as desired. For example, the landing gear snapped off on impact, a design intended to decrease chances of puncturing the fuel tanks on the wings possibly saving lives.

Of the three deaths from the Asiana Airlines flight, all might have been preventable even after the crash landing. With flames breaking out both inside the cabin and outside the plane first responders' first priority was to stop the flames and create a safe path for survivors. For several victims who landed on the tarmac after the tail was ripped off, this meant they were also sprayed with the white fire retardant foam rendering them less visible. A 16 year old girl was killed by a fire truck. Her friend, who is also thought to have been near the tail, was not found or assessed by emergency workers until at least 20 minutes after the crash.

As with the train disaster in Quebec there are high hopes that safety in commercial aviation will be improved by the knowledge gained from this disaster. Although the definitive facts of the crash will not be known until a report is released in a projected 12 to 18 months, there is speculation it will look at increasing pilot complacency from overly automated cockpits as well as effective emergency response on the ground.

Although fiery, devastating and terrifying when something goes wrong, both trains and planes continue to have better safety records than the average highway. Because of high levels of regulation, insistence on impeccably good design, rigorous testing and frequent maintenance these industries continue to be relatively safe. However, we must be cognizant in our designs of the worst case scenarios and how they can be prevented from happening. In both these cases there were critical errors made where identification and fixing of the problem was possible before loss of life occurred. Noticing the problem before it leads to disaster, is what being a good engineer is all about.

Toronto Underwater After Heavy Rainfall



NANCY HUI
3N CIVIL

Less than two weeks after floods swept through southern Alberta, Toronto was also deluged. On July 8 an astounding 126 mm of rain fell on the city within two hours during the evening commute. 300 000 residents lost power, and there was flooding on several downtown streets that submerged cars and basements. A large portion of the Yonge-University-Spadina subway line was also flooded and put out of commission. The most spectacular incident was likely when the flooding trapped a GO train on the track and the subsequent rescue of its passengers in small inflatable boats.

However, there were no mass evacuations or homelessness, as occurred due to the

flooding in Alberta. The flooding in Alberta was particularly extensive because it was caused by a combination of rain and spring meltwater from the mountains. This combination caused the rivers that ran through the affected communities to rip away flood walls and erode banks. In Toronto, the flooding was caused only by precipitation and the later overflowing of storm sewers.

Prior to July 8, 2013 the last major comparable rainfall in Toronto was during Hurricane Hazel in 1954. In this case 200 mm of rain fell, of which 121 mm fell over the course of 24 hours. During that flood, the Humber River overflowed and the neighbourhoods of Long Branch and Raymore Drive in Etobicoke were destroyed and consequently converted into parks.

Hurricane Hazel prompted the creation of the Toronto and Region Conservation Authority to implement floodplain regulations and the organization was also given

purchase authority to manage the city's floodplains and rivers. Hurricane Hazel, having exceeded the 100 year storm design conditions, also became the design standard for floodplain systems in Southern Ontario. Both Hurricane Hazel and the June flood were particularly devastating since the soil in Toronto had already been saturated by rain on previous days. However, the flooding in 2013 was less devastating; there were no drowning-related deaths or widespread evacuations, whereas Hazel left 81 dead and 4000 families homeless. Less than 24 hours after the storm, the subways were in operation again, and most of the city was back to business, apart from some isolated power outages.

Interestingly, the Flood Damage Reduction Program was established in 1975, which allowed federal and provincial governments to share the costs of creating flood risk assessment and floodplain mapping.

However, this program was dissolved in 1990, and since then flood-risk management has been neglected at the federal level. One wonders if it is time to revise the old floodplain data. Houses that were built above the flood line and previously safe may now be endangered by upstream development, which would have paved over green lands and decreased surface permeability. Furthermore, recent weather patterns should be taken into account: although precipitation may not be increasing, it is becoming more frequent, which could affect erosion and infrastructure deterioration.

Side note: Rob Ford was chilling with his kids in his air-conditioned SUV when the power went out. In contrast, the Calgary mayor, Naheed Nenshi, worked non-stop for 43 hours during the flood, appearing to never sleep and inspiring the hashtag #nap4nenshi, and Doug Ford (Rob Ford's brother) was directing traffic in Etobicoke.

Discounts Now Available at Kickoff, Molly Bloom, etc.

Continued from STUDENT on Page 1

The indirect benefit, which is perhaps greater, is that when faced with a choice of places to take their business, Engineering Society members will likely opt for the one at which they receive a direct discount. This provides a good set of potential customers to the businesses participating, a factor that's increasingly important in a fierce business environment like the two

plazas next to campus.

The Engineering Society is hoping this will prove a successful pilot for more continuous services for the Society to offer, as a supplement to the event-based services like resumé critiques that are currently well-known by the student body. Engineering Society "A" President David Birnbaum believes continuous services allow for easier explanation of the benefits of the Society, providing greater

awareness to students of the initiatives they are currently undertaking. "The real way to affect students is to communicate things that the Engineering Society offers," Birnbaum suggested. Using metrics from the initial round of businesses this term, they hope to be able to advertise the program better to future businesses by demonstrating how successful it has been at previous ones.

Four locations in the University Shops

Plaza are participating in the launch of the program:

- Kickoff: Free basket of waffle fries with purchase of two pitchers from Sunday to Wednesday
- Molly Bloom's Irish Pub: 15% off all food items
- Sweet Dreams Teashop: 10% off all items
- Vegetarian & Fast Food Restaurant: 10% off all food items (cash only)

Feds and EngSoc Exec Respond to July General Meeting

Continued from FEDS on Page 1

The current structure of Feds does not have the VPs reporting to the President, rather, all the VPs and President report to the Board of Directors. Many students, including Kevin, have expressed their concern about the VPs reporting to the same structure in which they are a significant voice. The two extra students on the Board have seemed to reduce that concern but some are still wary about how much power the VPs hold on the Board of Directors.

It was decided that the two additional Board of Directors members were not to be elected at the March General Meeting. Feds VP Education Adam Garcia made a statement citing advice from their lawyer to not proceed with an election during the meeting.

Over two hours past the start of the meeting, the assembly took a 15 minute break to eat ice cream and rest their placard arm.

The July General Meeting started with a unique discussion. It was the Chair's understanding that the July General Meeting was a "special general meeting," disallowing any motion to be presented at the meeting. The disagreement resulted in a vote to decide whether the meeting should be considered "special" or not. The assembly voted to consider the July General Meeting a regular meeting, therefore allowing motions.

With that, David Birnbaum presented a motion "to have Feds actively work towards the engineering faculty handling the Engineering Society's fee and transfer." When asked why he put the motion forward David explained that there have been problems with receiving fees from Feds in the past. "In the Society's Agreement it outlines that there are four items we must submit in order to get our fees and every term they are asking for more and more items. We are generally compliant, we send them the additional items they request... I think it would give us more freedom." According to David, the Society's Agreement also contains many stipulations that could allow Feds from withholding fees from the Engineering Society. David highlights this "as a concern to the Engineering Society running... If we're not able to have our fees, we're not able to operate. We can't just stand still."

Kevin McNamara support the motion put forward by David Birnbaum. "...I think it's a very positive motion from the engineering perspective," noting that research will have to go into making sure changing the pay pipeline is something allowed at the university level. "I think it will be important that in moving forward with this idea that the Federation of

Students is behind us. Without their cooperation it would probably be tough to do... It is my personal belief that, if we're receiving the money through the Faculty of Engineering (which means through the Dean essentially), if the Dean goes to the University and says 'we need to get this money sooner, we need to get this money now,' she has a lot more pull at the university level than I believe anyone on Feds does... It will be easier for directors that are strapped for cash who aren't able to fork out one hundred plus dollars in the first couple weeks of school, only to have to wait a month and a half to get their money back [because they have to cover their own expenses until the money comes through the current system], to be able to run the events that they want and be able to get involved in the [Engineering] Society." Kevin also stated transparency concerns with Feds and believes the closer relationship with the Faculty of Engineering will open more options to the Engineering Society in terms of getting fees and take some responsibility off of Feds shoulders.

Natasha was unable to speak with David Birnbaum about his motion but was enthusiastic about "setting up a meeting with members of the Engineering Society, member of the Federation [of Students], people from the [University of Waterloo] Finance Department and from the Dean of Engineering's office to discuss why the current system is in place and then find a process that works for the Engineering Society and helps the Engineering Society accomplish their goals."

After listening to the three point of views it would seem that Feds and the Engineering Society are working towards a common goal. Both organizations realize that a review of the current system to distribute money between the University and the Engineering Society is needed. It has yet to be determined what is the best way. The current system may be the best option; hopefully Feds and the Engineering Society can work to resolve this point of tension between both parties.

Three hours after the scheduled start of the General Meeting, with only the Feds Executive reports left on the agenda, it seemed as if the evening was close to concluding. It was close to the ending, but not in the way many were expecting. After David Birnbaum's motion was resolved another motion was tabled by Kevin McNamara, which incited an audible reaction from the assembly.

Kevin brought forward a controversial motion to remove Natasha Pozega, Devin Drury, Adam Garcia and Prashant Patel from the Board of Directors. It seemed that the motion

was misinterpreted at the General Meeting, many people thinking that Kevin wanted to remove the aforementioned people from office rather than the Board of Directors. Soon after, Kevin brought forward the motion and Sean Hunt brought forward a motion of "the objection to consideration of the question," which would mean Kevin's motion could not be carried forward if it failed a 2/3 vote. The Feds lawyer was then contacted and presented a statement in front of the assembly, through the Chair, stating that "a motion of this nature cannot and will not be entertained at this meeting at this time," and was then followed by a successful motion to adjourn the meeting. The Executive reports originally on the agenda were never presented at the meeting.

I asked Natasha if there was anything in her report that she wanted the student body to know. "The most important thing at this point would be that we are conducting a governance review, because clearly it is a concern. I do think good things will come from that and it's very important that we have an external consultant do that." Natasha added that major consideration will be put into students and staff feedback.

To explain what brought about Kevin's motion requires information about the Board of Directors meeting held the day before the General Meeting on July 15. Kevin stated that he attended the General Meeting where the Board of Directors voted to approve the bylaw amendments. Both David and Kevin explained to me that any bylaw changes first need to be approved by the Board of Directors and then the Board needs to approve the inclusion of the bylaw changes in the General Meeting agenda. If the Board of Directors does not approve a bylaw, the Corporations Act does not allow it to be tabled at a General Meeting. Though the minutes of the Board of Directors meeting held on July 15 have not been published, Kevin states that "three board members voted in favour of allowing the bylaw changes; five voted against allowing them." Those five members were those named above in the motion as well as the President, David Collins. It would seem that the members of the Board of Directors did not agree on whether the amendment should be approved or not. David Birnbaum declined to comment on his particular vote during the Board of Directors meeting, but stated "The Board as a whole decided to remove that item... The Board removed the bylaws, in my opinion, correctly from the agenda... The Board did not approve of the bylaws themselves, therefore the motion has to be removed

from the agenda."

Natasha Pozega defended her decision on the Board. "Each Director made an informed decision based on the lawyer's opinion... I did not approve the bylaws because the lawyers recommended it was removed... Feds is here to support students, but Feds is also a corporation," said Pozega. "In order to support students we do have to make sure that the corporation follows the law and is viable and can continue to support students."

On July 16, Feds posted a news feed item entitled "Update: Changes made to General Meeting Agenda", stating "Previously, it was indicated on the agenda that Paragraph V. C. entitled "Proposals" with the first line, 'The Board shall include proposals submitted by voting members in the second notice of a meeting in accordance with the Act,' would be included... Such a proposal is only provided for by the proposed Not-for-Profit Corporations Act, which has not yet been proclaimed in force. The Federation By-Laws were re-drafted this year, partly in anticipation of the new Not-for-Profit Corporations Act coming into force. The By-Laws provide that references to the Act are to whichever Act is applicable at the time. That means that Paragraph V. C. of the By-Laws must be interpreted in accordance with the legislation that is now in force." From the wording above, it's hard to determine exactly why the amendment was disapproved. Was it removed because the July General Meeting was initially considered a "Special General Meeting?"

Kevin's impression from attending the Board of Directors meeting was "there was no concrete reasoning behind 'we have to 100% remove [the amendment] from the agenda... they cited legal reasons and from what I could interpret from it was that they were worried about not having provided enough notice of the bylaw changes to allow them to be talked about and voted on at the meeting.'" I have contacted Feds to clarify the advice from the lawyer, as of the evening of Monday, July 22, I have yet to hear back from them. Nevertheless, many people's concerns about the transparency of Feds seem to be legitimate concerns since I needed to make direct inquiries to get a full statement from Feds, rather than an explanation being posted on their website.

Kevin was disappointed that he was unable to speak to his motion at the General Meeting. He clarified the spirit of the motion, explaining that "in my opinion, and the opinion of others, to remove an item from the agenda that so greatly benefits so many students the day before the meeting, it looks bad of the Board of Directors and I feel that the Board of Directors had ample opportunity between when the bylaw was brought forward and meeting to vote on it, to decide if it was going to be allowed... I feel like delaying it to the day before [the General Meeting] was not a good move on their part in supporting their members, empowering their members, representing their members... To do what they did looks very bad on the organization." Kevin later pointed out that "there was no distinct [statement] from the lawyer" presented at the Board meeting.

Some might consider Kevin's motion an overreaction to the decision of the Board of Directors. Is it necessary to remove the members of the Board because of how they dealt with this situation? I think some might have considered a motion to censure the members of the Board a more appropriate measure. Other people were taken aback by the abruptness of Kevin's motion, calling a "surprise" motion at a General Meeting inappropriate. Regardless, a clear message has been sent to the Board of Directors and Feds that students on campus are not content with how they are operating and conducting themselves. I would encourage anyone displeased with Feds or the Board of Director to contact them. Their contact information can be found at feds.ca/govstaff-section/all-staff.

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DAVID BIRNBAUM
PRESIDENT

The term has gone by quickly, but it was definitely an exciting one!

The student deals program and textbook library both launched last week, and are off to a good start. The student deals program is free for all students, and gives you awesome deals in the plaza: just head over to the EngSoc office (CPH 1327) and pick up your student deals sticker.

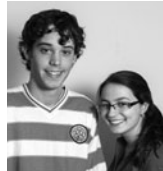
The LCD screens now have software ready for them, and they will hopefully be up and running soon. This will be another way for EngSoc to advertise our events and services, and will provide us with an avenue to communicate many more opportunities moving forward.

Last week was also the E&P meeting, where I represent the student body on students various academic petitions. Please remember that if you or your friends are ever in academic trouble, they can come talk to me

and I can provide support.

Council Meeting 6 is today, and it is going to be a good one. Feds President David Collins will be coming to give a guest speech, and we will also be voting on the ratification changes and students' award policy. For more information on those items please check out the website or come and ask. We will also be getting a presentation from our CFO on the Society surveys that went out. There are two member submitted motions that we will be discussing, and we will be ratifying the new speaker and commissioners for the Winter 2014 term. Finally, we will be announcing the winner of the President's awards for outstanding directors and commissioners, and the Paul Harlick award for outstanding class rep. I hope to see you there.

I had a great time in my first term as your President, and I hope you were all happy with the term. As always, any questions and concerns can be emailed to me at president.a@engsoc.uwaterloo.ca. Feel free to also let me know if you have anything you would like me to work on over the coop term! I hope you all have a great work term, and see you in January!



ANNAMARIA REDA
BRENDAN O'HANLON
VPS INTERNAL

Hello for the last time! After this semester, Annamaria is taking the reins as VP Internal. But the semester isn't over yet! Friday is EngSoc day, and there will be inflatable rides, a barbecue, an Engenuity event at lunch, and the End of Term Party (EOT) is in the evening. Don't forget to submit your P**5 points, as the winning classes will be announced at EOT (with the help of the P**5 banner). Band Wars is on the next day, Saturday, July 27. Be at Wilf's at 7 p.m. to listen to bands battle it out to win. If you liked TalEng then you will like Band Wars.

The last couple weeks have seen a whole bunch of exciting and successful events pass. Beach Day at Grand Bend was a fun trip and well worth the sunburns. Students shared a round of golf with alumni at the Student & Alumni Golf Tournament. Four boats competed at Cardboard Boat

Racing. While most boats went belly-up pretty quickly, that didn't stop the fun! Next year cardboard submarine racing may be considered. EngPlay had three fantastic performances last week - bravo to all the actors and assistants that made the production possible. And finally, course critiques saw all of the students' class feedback screened and sorted.

Reminder: directorship applications close Friday, August 2 — we still need some directors! Want to organize fun outdoor winter activities, or larger events like TalEng or Semi-Formal, or have your own event to run? We want you! With that being said, I'd like to again thank every director that made all of the EngSoc events possible this semester. You guys are awesome, I've never had as much fun in my life as in this semester.

Looking forward, expect the Winter semester to be as exciting as this one. Events planned include outdoor winter activities, more student skills workshops, a variety of new speakers, and a few more surprises. That's it for me everybody, have fun!

ESSCO is BESSCO



LEILA MEEMA-COLEMAN
VP EXTERNAL

Holy cow! I cannot believe that this term is almost over. It seems like yesterday that I was sitting in the Orifice stressing over what the heck I was going to write for my first *The Iron Warrior* article. Now look at me, a professional writer in less than three months! Any who, in this article I am going to focus on one part of my portfolio that I haven't really touched on this term and that is the external organizations that I interact with. ESSCO, or Engineering Student Societies Council of Ontario for the acronymophobes, is a provincial body that works to represent Ontario engineering students and you are all member simply by being an EngSoc member! If this organization is something you would like to get involved with there is many ways to do so! Two in particular are by attending conferences or becoming a director. There are two directorships applications open right now in ESSCO and you can apply at essco.ca. They are a great way to meet people from all over Ontario, develop your leadership skills and make an impact on the provincial level. The two directorship positions are below. If you have questions about either position or applying please e-mail me at vpexternal.a@engsoc.uwaterloo.ca.

Math and Science Day Director

The Math and Science Day director is responsible for helping facilitate a day at Canada's Wonderland to help judge the high school roller coaster competition. They will liaise with the schools, recruit volunteers and work on promoting engineering outreach.

National Engineering Month (NEM) Director

The NEM director is responsible for coordinating a province wide Rube-Goldberg machine connecting over ten schools across Ontario. They work with the schools to plan

the machine as well as the Ontario Society for Professional Engineers (OSPE) to plan a NEM finale event at the C.N. Tower where the machine will be unveiled.

In addition if you would like to get the chance to interact with ESSCO or the Canadian Federation of Students (CFES), you should go to conferences. Conferences bring together engineering students from across the country to get together and learn from each other and share ideas. In the fall term there are two conferences that you can apply to attend: the National Conference for Women in Engineering (NCWIE) and the Professional Engineers of Ontario Student Conference (PEO-SC). NCWIE focuses on increasing diversity in engineering whereas PEO-SC focuses on professional development and expanding your professional network. I will be opening applications for both these conferences at the beginning of September so if you are interested stay tuned!

Lastly I want to thank each and every one of my directors who put in so much effort this term! I cannot believe how successful they all were! I can't wait to see all of you again in the fall with even newer and more exciting events but until then have a fantabulous coop!



KEVIN MCNAMARA
VP FINANCE

Hey there A-Soc! Wow, it's hard to believe that this term is already starting to come to an end. As things wind down and final exams start to look like more of a reality, there's a few things to wrap up in terms of finances. First off, the ECIF committee met this past Wednesday to decide on how to allocate a total of \$5500 (\$1900 from the current EngSoc budget, \$2100 to be reallocated from Winter 2013, and \$1500 to be reallocated from Fall 2012) towards capital purchases within Engineering. The proposals included a basketball net for CPH Courtyard, reupholstering some of the POETS couches, among other things. The allocations will be presented and voted on at EngSoc Meeting 6 on the July 24, and will be available on the EngSoc website after this for anyone who is interested. If you have any ideas for something that ECIF can purchase in the future, the form is always open at engsoc.uwaterloo.ca/services/ecif-application.

On the topic of allocations, Sponsorship al-

locations for the term were ratified at EngSoc Meeting five, and can be seen on this page. A total of 11 teams and groups on campus submitted proposals, to be allocated a total of \$5000 from the Spring term's budget. The sponsorship committee deliberated to come up with the allocations, which saw each group receive at least partial funding for their requests. Note to those who received sponsorship: as soon as you have purchased the items that you had sponsorship allocated to you for, please submit receipts in the EngSoc Office for reimbursement.

Moving onto coveralls, they should be in some time this week. Once they have come in, everyone who purchased a pair will receive an email from me. Did you miss out on coverall day this term? Not to worry, there will be another in the Winter, with more patches, more covering, and more alling! I am also looking into an EngSoc Onesie day, for those who may be interested in that!

Interested in getting involved in the running of Novelties, the Engineering Society swag shop that is located in CPH foyer? Then you should apply to be a Novelties director for the Winter 2014 Term! Novelties Directors are the nice people that you see sitting in the store at lunch time, and are fundamental to the running of the store. If you have great ideas for new items, great ideas to improve existing items, or great ideas in general, then I suggest you apply! The form is available on the EngSoc website. Even if you're not interested in being a director, I am always looking for novelties suggestions, so please let me know!

That's about all I've got to update in terms of finances this issue. Thank you to everyone for a successful term, I have enjoyed being your VP Finance so far, and look forward to what the Winter term has to bring. As always, if you ever have any questions, don't hesitate to ask! Email me at vpfinance.a@engsoc.uwaterloo.ca, and I am more than happy to talk about anything finance related with you! Good luck during co-op and see you in the Winter!

EngSoc Spring 2013 Sponsorship Allocations		
Group/Team	Allocated	Item
EngFOC	\$291.43	Gentian Violet, Buckets
GNCTR	\$500.00	Tools
Hashbang	\$170.00	Tier 1
iGEM	\$300.00	DNA Synthesis
UW Electric Motorsports	\$135.00	PC Duinos
UW Clean Snowmobile	\$410.20	Sensors
UW Robotics Team	\$982.56	Competition Fees/ NASA Motors, etc.
UW_NRG	\$389.00	Microscope Camera
UWAFT	\$700.00	Vacuum and Pump
uwDNA	\$496.81	Tips/Tubes/Storage Racks/Cuvettes
UWFSAE	\$625.00	Drill Press/Materials
Total	\$5,000.00	

Upcoming Events Calendar							
Wednesday July 24	Thursday July 25	Friday July 26	Saturday July 27	Sunday July 28	Monday July 29	Tuesday July 30	Check out up-to-the-day event postings on the EngSoc website at engsoc.uwaterloo.ca
EngSoc Meeting #6 17:30 - 19:00, POETS Coffee House 20:30 - 23:00, POETS	Charity Pancakes 08:30 - 10:30, CPH Foyer Running Club 19:00 - 20:00	ENGSOCC DAY! Engenuity Design Competition 11:30 - 13:30, CPH Foyer EOT 21:00 - 23:00 PM, POETS	Band Wars 19:00 - 23:00, Wilf's		Ice Team Monday 15:00-17:00, POETS Patio	Last Day of Lectures Colouring Contest	

Educational Tips for Studying



DREW DUTTON
VP EDUCATION

Hi again everybody. Hard to believe that this is already the last *The Iron Warrior* issue of the term!?! In this issue I will continue on the subject of examinations, which are fast approaching. Exams are a stressful time for everyone, and how you prepare leading into the study break can make all the difference. Here are a few things to keep in mind that will help you succeed this exam period:

Schedule your time! Write down your exam dates on a calendar and schedule study time accordingly. Do it ASAP. Estimate how much time you need to study for each course, and divvy it up throughout the days leading up to your exam. Bear in mind that you will likely need a bit more time than you initially

assumed. An ideal situation is where you know the ins and outs of your course a full day before your exam. That day should have about an hour of dedicated light review time for the course, but the majority of your day should be devoted to the next exams in line.

SLEEP! You will be loading your brain to the brim with information. Sleep is an integral part of sorting and storing that information into your long-term memory. On top of that, having a full night's sleep will keep you feeling fresh and sharp minded, ready to tackle another day of studying or a tricky final. Include bedtime on your study schedule. Going to sleep and waking up at consistent times only increases the effectiveness of your downtime. Try to incorporate these times such that a morning exam won't require you to wake up earlier than usual. Doctors recommend between seven and nine hours of sleep each night, so try to avoid cramming!

Take frequent and regular breaks. Many studies show that students begin to lose focus after 50 minutes of concerted focus. Taking 10 to 15 minutes of break time to get up and move about helps you regain your focus to use the next hour efficiently. Avoid watching TV in this time, as it can be easy to convince yourself to watch a whole season show while you're at it! Some good study breaks include going for a walk, bathroom breaks, or making a snack for yourself. If you're having trouble with a question, you might even see it in a new angle when you sit back down!

Eat healthy. Eating regularly and balanced meals ensures your body has all the vitamins and nutrients it needs to function properly. It can be surprising how much better you can feel by eating well. You will feel more confident and more capable. Avoid eating sugary snacks, which will lead to a crash halfway through your 50 minute study

block. Lastly, I know it can be hard (I'm a culprit) but ease off on the coffee! Try to limit yourself to one to two cups of coffee MAX per day.

Make time to relax! Naturally you want to study as much as possible, but sometimes taking an hour to hang out with friends or hit the gym can make all the difference for the rest of your study blocks. I'm personally a fan of relaxing for a bit the night before an exam, and immediately after writing an exam. Find out what works for you.

Don't stress if things could have gone better... easier said than done, eh? Done is done. Stressing about how you did in an exam does you no good. Focus on the exams left ahead of you, and doing well on them.

Naturally, everyone is different. Find out what works for you, and get into a rhythm. Best of luck to everyone, and have a great work term. I look forward to seeing you all in January.

Debt Load Survey

1. Response Summary:

Total Responses: 865
Number of Surveys Sent: 2034
Response %: 43%
of Students in Core Classes: 2728

2. Does your family support you financially? (843 responses)

Yes: 73% No: 27%

3. Average Cost of Living for 4 Month School Term? (847 responses)

\$11,276

4. Average Cost of Living for 4 Month Work Term? (799 responses)

\$4,297

5. Have you applied for local aid or other bursaries? (849 responses)

Yes: 45% No: 42% Not yet: 13%

6. Have you applied for local aid for OSAP? (856 responses)

Yes & Received: 45% No: 43%
Yes & Denied: 12%

7. Do you have a loan for academic purposes? (848 responses)

Yes: 39% No: 52% Not Yet: 9%

8. Has the differential tuition increase caused you hardship? (842 responses)

Yes: 40% No: 33%
Not Yet: 27%

9. How much debt do you expect to be in by graduation (\$) (822 responses)

No debt: 28%
<4,999: 14%
5000-9999: 11%
10000-19999: 16%
20000-39999: 20%
40000+: 11%

10. Do you live at home while at school? (857 responses)

Usually: 8% Used to: 2%
No: 90%

11. Have you lived at home while on work terms? (854 responses)

Always: 15% Sometimes: 50%
Never: 35%

12. Average weekly salary while on work term (743 responses)

\$669

WEEF Review for Spring 2013

BEN PRATT
WEEF DIRECTOR

The Spring 2013 term is coming to a close which means that this term's Waterloo Engineering Endowment Foundation (WEEF) allocation of \$60,000 to Faculty and Student Teams initiatives is nearly complete. This year, the Funding Council had a particularly difficult task, to whittle down the \$216,725 in requests and award the total \$60,000 to the most deserving of causes. It is no small feat and council engaged in heated debate about what proposal deserves the funds. With 19 Faculty proposals, 17 Student Teams and 6 miscellaneous category proposals from nearly all departments and teams, the most capable WEEF Funding Council allocated 70% of the funds to Faculty with the remaining 30% to the Student Teams. Your class representatives comprising the Funding Council sat through just over four hours of presentations, followed up with two and a half hours in the following decision meeting. This term, we were able to pass this term's decision with representative attendance from 26 of 33 classes.

The meetings provide the venue for each class's representative to attend and really dig deep into what their department needs and collaborate with all other Council members to determine what will be best for the student body. It can be a lengthy three nights, often not during the best time for each representative. For all that attended, thank you for attending and providing the insight and discussion that make WEEF what it is today.

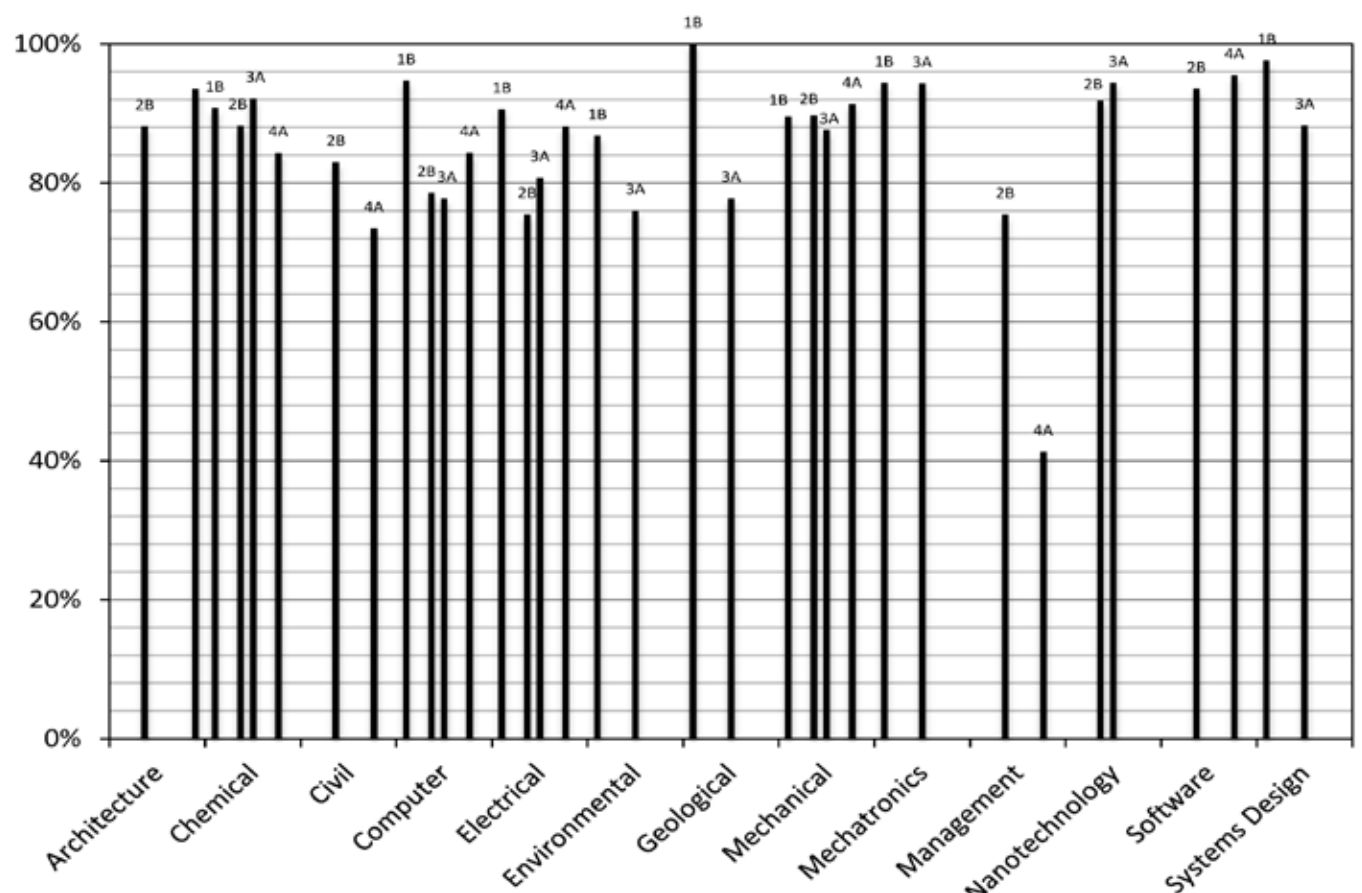
Congratulations to those that have received funding! For the details on which proposal received funding and for what items, be sure to check out weef.uwaterloo.ca/proposals.php in the first few days of August. Official approval of funding will take place the evening of July 29 during the Board of Directors meeting. For those that did not receive funding, or as much as they would have liked, we want to thank you for submitting your proposal and doing what you can to improve the Undergraduate Engineering experience at the University of Waterloo! The vast number of proposals that we see each term is proof that people want to make a positive change for those students on campus and for those that will be

following in our footsteps. We want to continue to urge all that feel compelled to make a difference to continue submitting their proposals each term and contact us at any time with any questions you may have. Please note that only items with funding allocations are permissible expenses.

This term, WEEF is proud to announce this term's participation rate is 87.8%, which is higher than the last several Spring terms! Attached is a figure with the participation rates of all departments. The Geological Engineering 1B class stands out as the only class with 100% participation! Congratulations! Higher participation rates provide funding for all the fancy gadgetry and laboratory equipment that our departments require to provide us with leading edge education, and provide the teams with the ability to intimidate their competitors in the various competitions throughout the year.

As always, do not hesitate to email us at any time throughout the term at weef@uwaterloo.ca with any questions you might have. Remember, one of the best formulas for your exams this term: WEEF IS GOOD!

Spring, 2013 WEEF Participation Rates by Class



What Time Is It Mr. Caesium-133?



IOANA CRAICIU
3T NANOTECHNOLOGY

MANDATORY SMALL TALK

According to my computer, it was 12:51:23 p.m. at the time I wrote the last digit. What is the precision of that measurement? Probably plus or minus one second, limited by my typing speed (appalling) and by my Internet connection. Having checked the "Set date and time automatically" box, my computer's time is updated via the internet to a server somewhere, which itself syncs with UTC time. UTC time, or Coordinated Universal Time, is the successor to GMT (Greenwich Mean Time). The precision of UTC time itself, limited by the precision of the atomic clocks that keep it, is about 0.1 femtoseconds. This means that the human race, assuming no global electricity blackouts affecting all atomic clocks simultaneously, will be able to reference this exact moment 100 million years from now, to the accuracy of a second. (Since there are about 10^{16} seconds in 100 million years).

International Atomic Time (IAT) is the time actually kept by a network of hundreds of

atomic clocks around the world. UTC is not quite the same as IAT, because we humans like our days to be 24 hours from noon to noon. Though this is true on average, it is not true for any given day if you measure it with fixed length seconds. This is due to a variety of factors such as the Earth's elliptical orbit and its axial tilt. Corrections are made to International Atomic Time by adding one second here and subtracting some there, to give us UTC time, which is followed by everything from the Stock Market to cellphones and home computers.

So how do atomic clocks keep such accurate time? Atomic clocks are really frequency calibration sources. Their input is a range of frequencies, and their output is one specific frequency. Time intervals can then be precisely measured since the time intervals are just the inverse of frequencies. There are several kinds of atomic clocks, some of which work at microwave frequencies (GHz), and some of which work at optical frequencies (hundreds of THz). The International Standard (SI) unit for time is the second, and it is defined to be 9 192 631 770 periods of a certain frequency naturally present in caesium (Cs) atoms. By definition, this frequency is exactly 9.192631770 GHz.

The atomic clocks used to define this stand-

ard and to keep IAT and UTC are called caesium fountain clocks. They start by cooling and trapping a small amount of caesium-133 atoms to a few microkelvin in a vacuum chamber using laser beams. This technique uses the fact that photons (particles of light), have momentum. By hitting a cloud of atoms with light from all six directions, the atoms can be compressed into a small ball, slowed down (and therefore cooled), and trapped. Another laser beam is then used to give a push to this bunch of atoms, sending them up into a resonant cavity. The resonant cavity is a chamber with an adjustable length that is filled with microwaves. For every length, only a certain frequency of the microwave can exist, so by changing the length, the frequency of the microwaves can be swept over. If the microwave frequency is resonant with a frequency in the caesium atoms, then the caesium atoms absorb the microwaves and change their state. In this changed state, they can interact with a laser and then fluoresce. Only when the input frequency is resonant with the caesium atoms will they fluoresce and by detecting the fluorescence, the resonant frequency of 9.192631770 GHz is found. There is nothing special about this number, it was chosen to match the previous definition of the second. The important part is that it will be the same for cold dilute samples

of caesium atoms regardless of the specific setup, time of year, or location on Earth so it can be measured and agreed upon by anyone with a caesium fountain clock.

There are other kinds of atomic clocks. One kind is an optical lattice clock. Instead of using a microwave resonant frequency of caesium atoms, an optical resonant frequency of strontium atoms is used. Also, instead of kicking the atoms up in a fountain, the atoms are trapped in an optical lattice. An optical lattice is a two dimensional pattern of standing waves, created by a laser beam interfering with itself. The standing waves create periodic traps for the atoms, which look kind of like a chessboard of hills and valleys. In this way, the atoms are held in place during the measurement. The higher frequency of the resonant light and longer measurement times make this type of atomic clock more precise than the caesium fountain clocks. Recently, a journal article in Nature Communications from a research group in Paris showed that this is the case by comparing several optical lattice clocks to each other and also to caesium atom clocks. There is talk that this will lead to a re-definition of the SI second to a more precise number. This would improve the accuracy of devices such as GPS, which depend on a precise knowledge of what time it is.

What's in a Hack



JOSHUA KALPIN
2B SOFTWARE

In the modern world of computing we constantly hear that X company was hacked by Y method. To the average non-super-tech-savvy individual many of these terms are confusing and it is worrying not to know why these companies or individual are being hacked. Furthermore, a bit of knowledge on what potential attacks are possible on computer systems can make it easier for those of you who may eventually want to program some software on your own to build secure systems.

So, to start, what exactly is hacking? Well, in a computer security sense, hacking can summed up as gaining unauthorized access to a computer system and/or altering the

program. This can either be obvious to users in the case of a defamed website or hacked twitter account or be almost undetectable.

The best example of the more visible methods of hacking is with a direct denial-of-service (DDOS) attack. The goal of this attack is to make a network, service or website unavailable to users. This can be accomplished in many different ways, but the most common is to overload the server with external requests so it can not serve up legitimate requests in a timely manner.

As a brief tangent, most web related services operate on a request model. When a user wants to do something (i.e. search something on Google), their computer sends a request to the server for some form of content. Ideally, a server can handle an extremely large number of requests at a time, but in most cases a DDOS attack sends millions of requests to a server at once. In the news, any time you hear about Anonymous attacking someone,

it generally is accomplished by this method.

Another common hack thrown around these days is called a zero-day attack, or 0-day exploit. Essentially this describes any attack that exploits an unknown vulnerability in a piece of software, hence it occurs on day zero of the attack being discovered. There have been a number of these on Java lately and it is one of the most difficult attacks to defend against because of the short time frame between it's discovery and use.

These first two hacks are more oriented towards a technically hands on approach to taking down a computer system or gaining access to someone's information. There are also a number of hacks that rely on fooling a user into willingly giving over password credentials without having to attempt to break in manually.

The most common and, frankly, most scary of these is social engineering. Social engineering works by the hacker either

posing as another person or pretending that they work at a specific company to try to gain access to their system. This is more of a psychological attack that can be approached in many different ways. In some cases, the goal is to obtain a user's credentials, while in others it may be to get a user to download a virus to infect an entire network. Recently in the news, bank systems in the U.K. were infected by a virus because of a social engineering attack on a number of employees.

The three attack methods that we just covered are just the tip of the iceberg when it comes to the wild-west of computer security. There are a slew of viruses, malware, and other goodies that can take over a computer, but the definition of a virus is a lot more common than many of these hacks. Hopefully, you learned a little bit about computer security and what a couple of these exploits actually do.

Hyperloop Aims to Outperform High-Speed Rail



JACOB TERRY
3A NANOTECHNOLOGY

Tesla Motors CEO Elon Musk announced via Twitter last Monday that on August 12, he would publish the alpha design of the Hyperloop, a proposed rapid transit model he is involved in that

he hopes will be a more effective means of transportation than current high-speed transit models. His initial claim stated that the design, whatever it may be, would be able to get people from Los Angeles to San Francisco in half an hour, leading to massive speculation on what could be the solution.

Musk has described the Hyperloop as a "cross between a Concorde and a railgun and an air hockey table", leading

many enthusiasts to attempt to create mockups and theories of how the system works. The most popular theory going around, one that Musk has hinted is the closest he's seen so far to the actual design, is that the Hyperloop will be a long tube in which air-propelled pods rocket at nearly 1000 km/h. At the end of the loop would be a deceleration and acceleration zone where magnets would slow down and speed up the pod

at the ends of the journey. To maintain these high speeds, the tube would need to be sealed with low interior air levels to reduce the severity of air drag on the pods. Vacuum-sealing the tubes would be one way of removing concerns about air drag in the tube, yet Musk has stated that his solution does not use vacuum-sealed tubes, further fueling speculation.

Continued at **CURRENT** on Page 9



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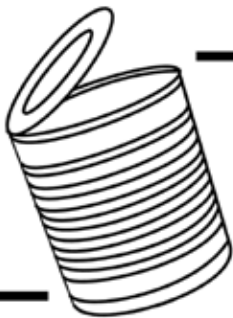
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ADD WINGS FOR \$2
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\$10 PITCHERS
THURSDAYS BEFORE 11PM

DIRTY BURGER DAYS
\$2 BURGERS AND WINGS \$5.50/LB
MONDAY, TUESDAY, AND WEDNESDAY

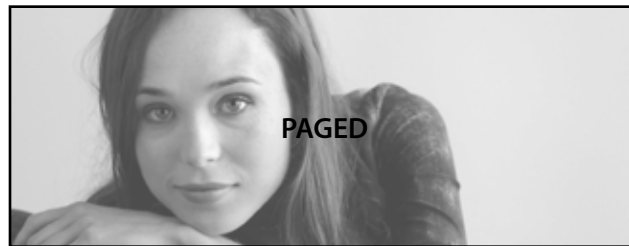
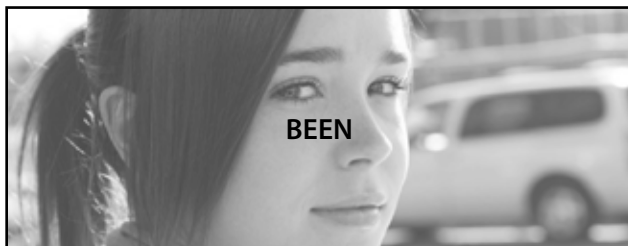
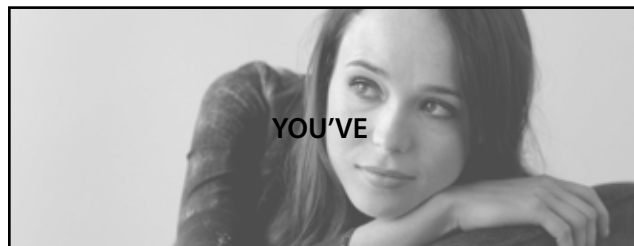
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THE TIN SOLDIER



WELCOME TO THE ELLEN PAGE SHOW

THE BEST LOOKIN' SHOW YOU'VE EVER SEEN



Rho, Rho, Rho your boat, you happy little yaughter

Aren't you happy the rho of wood, is less than the rho of water?

The Iron Warrior Announces it Will Decouple From Itself

IMPURE MOMENT IRON WARRIOR PRESIDENT "A"

In a lengthy press release through its publication which no one reads, *The Iron Warrior* announced on its latest issue that each stream of the newspaper will "decouple" from one another, dismantling the Advisory Board that consisted of an equal and representative selection of members from each stream. In its place, there will be two Advisory Boards of three members each, which will not ask each other for approval and effectively share an office and a general structure. The press release reads as follows:

The Iron Warrior 'A' members of the Advisory Board would like to announce that the Advisory Board has agreed to propose decoupling our publications at the next Advisory Board meeting. All members of

the Advisory Board have definitely been briefed on this multiple times beforehand and this will be beneficial to both publications. The 'B' members completely support this idea and can't wait to pass it at the upcoming meeting. No seriously, they love it even more than we do. We shit you not.

This proposal will work out for both publications in a beneficial way. Each board will be able to better serve their publications without having to discuss their decisions with the other board. Our members feel that having to discuss their issues with members of the other stream is a fruitless exercise, as we have to reason through our arguments and justify to others why their ideas were useful. "I don't really like having to ask the members on The-Stream-That-Must-Not-Be-Named about their opinion and approval, because I quite frankly don't care,"

stated Lucas Hudson, the current editor of *The Iron Warrior*. "I do what I want, so deal with it."

The 'B' members on the Board were initially taken aback at the turn of events, but eventually came to accept that the proper way of dealing with their problems was through avoidance and division. They entirely agree with our method for going forward and are very excited to have this pass. "Wait, what?" agreed Alex Lee, the upcoming "B" editor of *The Iron Warrior*. "Shouldn't we talk about our issues together and compromise?"

As stated before, this proposal is in the best interest of the students and publications. At the next meeting, our stream will present a motion to remove the 'B' members from our Advisory Board for not acting in the best interest of the publication, as they

do not listen to what we say and vote against our motions because they disagree.

The publications will not share any structure, save for a few items in our new Policy Manual, which will state that the Editor-in-Chief runs *The Iron Warrior* and that we will use the same office. However, furniture is off-limits, so back off B-Board and buy your own chairs.

We feel strongly that this will not create a divide between publications and increase cohesion between boards, by not discussing shared issues and fending for ourselves. We also feel that doing what we want and not consulting with the other board will be beneficial to promoting further spirit, attracting members, and building unity between our two publications. We look forward to seeing the benefits of these actions going forward.

Waterloo to Promote Green Space on Campus

SULLEN CHOIRBOY 2B COMMUNISM AND CHROMATOGRAPHY

In its ongoing effort to increase the amount of green space on campus, the University will announce plans next week to implement green space on all campuses.

The plan has been confirmed by multiple sources last Friday. *The Tin Soldier* has accessed recycling bins on library computers but failed to uncover more information.

The project calls for a greening of most university spaces, including buildings, rooms, and libraries. One notable building absent from the greening plan is the South Campus Hall. Sources say it is already an

eyesore to everybody, therefore the benefit of making it green is minuscule.

Physical greening will take place sometime next term. It will consist of painting walls to various shades of green, adding loudspeakers playing licensed BrainSync music 24/7, and planting fake plants scattered in hallways. Patrons in a post-greening building will be able to emulate the feeling of being outdoors and enjoying life without actually doing anything.

A review of the University's recent purchase orders further confirmed the existence of this plan. An extravagant amount of Dulux Weatherguard and Dulux X-Pert paint totaling over \$25,000, colours unknown, have been ordered in the past month.

In addition to making non-green things green, the project also includes budget for coating grass fields with fluorescent green spray. Sources suggest that fluorescent paint will make green spaces "truly green regardless where the sun is." *The Tin Soldier* estimates a 20% reduction in lighting costs after the material is applied. An MSDS of the fluorescence is not yet available.

The greening will also apparently extend into cyberspace. A mandatory green theme will be applied on all university-affiliated sites. Visitors can customize their favourite shades of green for his or her own ultimate green cyber space.

The Tin Soldier has so far confirmed that at least three shades of green will be

available for free, including Light Green, Dark Green, and GO Transit Green. Exclusive green colours, which would require an "affordable annual subscription," introduce fifty exotic shades such as Jalapeño Pepper, Jägermeister Bottle, and long-time favourite #69B00B.

It remains yet to be seen if POETS will receive actual turf as part of this project or Dulux paint as a cost-effective alternative. NEAC did not reply directly when asked if it has reached to the University for funding of a new turf. "We may attempt to acquire some #69B00B paint from our sponsors," NEAC said in an emailed statement to *The Tin Soldier*. The Faculty of Environment spokesperson did not respond to requests for an interview.

Snowden Pardoned, Zimmerman Prosecuted

JOHN SNOWDEN KNOWS NOTHING

After the White House petition entitled "Pardon Edward Snowden" exceeded 100 000 signatures on July 9, 2013, Obama has formally apologized to America and the world.

A video was uploaded on YouTube showing the President of the United States looking very apologetic.

"We are very, very sorry for rifling through your emails and listening to your private phone calls. This went beyond the surveillance necessary to protect the interests of national security. The American people have spoken. Our government thought we knew how best to fight the war on terrorism, but the sacrifices that it required of American citizens was too great."

"There may be hundreds of thousands of telephone records — But we know nothing, Ed Snowden. Nothing of security, nothing of justice, nothing of liberty."

Obama then switched tack to address the George Zimmerman issues.

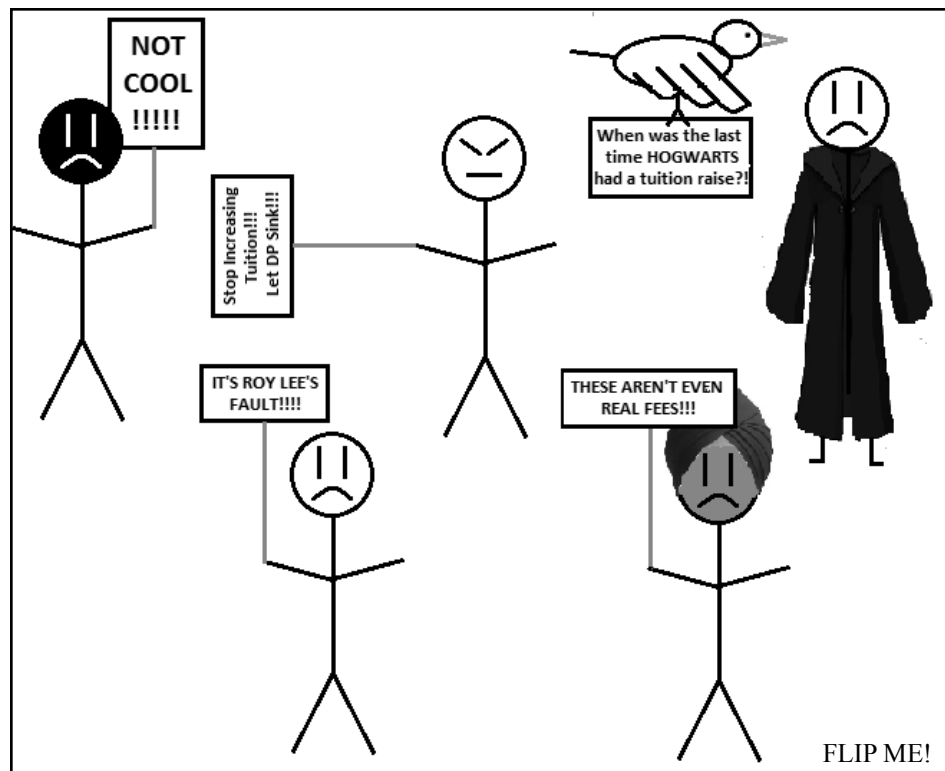
"There has been a gross miscarriage of justice in America this month. I speak, of course, of George Zimmerman. Thus to correct this I shall let the people of America take on the role of Judge Judy and Executioner for this man. We'll set up a poll on Facebook so that you can all 'like' either the 'Zimmerman is guilty' or 'Zimmerman is innocent' post. Most likes determines his fate! Street justice y'all."

Obama concluded his video on a positive note by introducing a new construction project.

"I'm happy to announce that we will be going forward with design and construction on the Death Star, or as we will call it, the Peace Moon. This will stimulate the economy and provide valuable American construction and manufacturing jobs, rather than outsourcing labour from the Gun-gans or the Sand People."

Construction is slated to begin in 2025.

Protests Outside DP After Mid-term Tuition Hike



LETTER FROM THE EDITOR

INSTABILITY SPEED



GOOD NEWS EVERYONE! I HOPE YOU ALL HAVING SWELL DAY, EH? I ONLY SAY HAPPY BIRTHDAY TO MY FATHER PREVIOUSLY BUT I NEGLECT TO SAY HAPPY BIRTHDAY TO MY AUNT, MY MOTHER, MY GRANDMOTHER, MY GRANDFATHER, GEORGE BUSH, JUSTIN BIEBER, JESUS AND BEER. THANK YOU!

I WOULD LIKE TO START OFF BY MAKE SOME CORRECTION TO PREVIOUS ISSUE. IN PREVIOUS ISSUE, I ADDED ARTICLES TO PAPER AND PUT BYLINES NEXT TO ARTICLES, AND I APOLOGIZE FOR MISTAKE.

ALSO, I WANT TO UPDATE ON MONEY UPGRADE THIS TERM. I HAS BOUGHT MANY CUSTOM WINDOWS COMPUTER. APPLE ARE DUMB. SO ARE ORANGE AND LEMON AND PINEAPPLE. WHO NAME COMPUTER AFTER FRUIT? WINDOWS COMPUTER WILL HELP WITH OFFICE PRODUCTIVITY (IT HAS MICROSOFT OFFICE) AND HAS SOME KICKASS GAMES THAT I PWN MY DOTA FRIENDS IN ON REGULAR BASIS. AS I ALWAYS SAY, IF YOU CAN'T FRAG NOOBS ON YOUR SWEET RIG, IT'S NOT WORTH BUYING, AMIRITE? YOU AND ME BOTH BRUDDA.

NEXTLY, I WOULD LIKE TO DISCUSS THE ART OF WASHING OF HAND IN BATHROOM. MANY ENGINEER GO BY BATHROOM WITHOUT WASHING HAND AND I WOULD LIKE TO ADDRESS ISSUE IN MY HIGH-PROFILE EDITORIAL. THE ART OF HAND WASH IS UNDERSTANDABLE FOR ALL THROUGH 8 SIMPLE STEP AS I WILL OUTLINE IN MY 5 STEP PLAN:

1. USING FIBROUS SHEET OR OPTIONAL KIMWIPE, ROTATE GEAR COUNTERCLOCKWISE ON HYDRATING DEVICE UNTIL PROPER FLOW

RATE ACHIEVED (ACHIEVEMENT UNLOCKED: DRAIN THE MAIN VEIN)

2. INSERT APPENDAGES INTO HYDRATING DEVICE, ROTATING FREQUENTLY FOR MAXIMUM SURFACE AREA COVERAGE.

3. CONTINUE MOISTENING APPENDAGES WHILE SINGING HERE'S TO SONG, GODIVA HYMN, OR OTHER APPROPRIATE SONG FOR PUBLIC WASHROOM.

4. END MOISTENING BY REMOVING APPENDAGE FROM HYDRATING DEVICE.

5. USING FIBROUS SHEET OR OPTIONAL KIMWIPE (A NEW ONE YOU DIRTBAG), ROTATE GEAR CLOCKWISE ON HYDRATING DEVICE UNTIL FLOW RATE = 0 L/s.

6. USING FIBROUS SHEET OR OPTIONAL KIMWIPE (MAY REUSE PREVIOUS ONE AT OWN RISK), WIPE APPENDAGES WITH FIBROUS SHEET OR OPTIONAL KIMWIPE UNTIL DRY.

7. DISPOSE OF FIBROUS SHEET OR OPTIONAL KIMWIPE AT NEARBY WASTE BEAKER.

8. EXIT BATHROOM

GREAT LORDS OF AZEROTH, I HAVE DESPISE OF THE SADNESS UPON WHICH INDESIGN LAY ITS GROTESQUE VISAGE. I WANT TO SHARE MOR...T.PS BUT THESE COMPUTER NOT W...K AS I DE...RE. WH...THI...G... AR.G.AG....GE.G.H....II.....

Adobe InDesign CS5.5 stopped working. Windows is checking for a solution to the problem.... (SEE FACEPAWING POLARBEAR)

..... A problem has been detected and Windows has been shut down to prevent you from completing your issue. This is not the first time you've seen this Stop error screen, but restart your computer anyway.

If this screen appears again, which it will, follow these steps:

Check to be sure you have adequate disk space. If a driver

is identified in the Stop message, disable the driver or check with the manufacturer for driver updates. Try changing video adapters.

Check with your hardware vendor for any BIOS updates. Disable BIOS memory options such as caching or shadowing. If you need to use Safe Mode to remove or disable components, restart your computer, press F8 to select Advanced Startup options, do the chicken dance, insert noodly appendages into orifices on your PC, toss furniture across the room, yell at your dutiful writers and editors, go for a "walk", make horking noises, remove eyeballs, punt PC, and then select Safe Mode.

Technical information:

*** STOP: 0x0234345368276EEFEFE FEFEEFEFEFE (0x901587156CCFFC-CFFCCF, LEFT RIGHT LEFT RIGHT UP UP DOWN DOWN B A)

Beginning dump of physical memory

Physical memory dump complete.

Beginning dump of "S13 Issue 5.indd"

Physical "S13 Issue 5.indd" dump complete.

Beginning dump.

Physical dump complete. ;)

Contact no one, because no one can help you now. DFTBA!



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PACEFAWING POLAR BEAR!!!

The God of the Underworld Wants You

(or Your Soul)



HADES
COLLECTOR OF ALL THE
SOULS

All day, err'day, I collect the souls of mortals. Sometimes, they die. Sometimes, they decide to sell it to me. It's dull and dreary work, but once in a while, a soul presents itself that is both interesting and frightening to behold. These souls are offered to me every four months from a distinct type of student at the University of Waterloo; they are the Editors of *The Iron Warrior*. They are crazy enough to study Engineering at Waterloo and they are also stupid enough to accept this position. From the steady stream of idiots to pass through the Hell (so to speak) that is being an EIC, I've categorized the souls of these misguided dumbasses into categories.

Rambling Overachiever

This particular specimen is an overachiever in the sense that he demonstrated his prowess and became the Editor in their 2A term. More commonly known as the "Leeroy's", these editors have a distinct aptitude for getting 'er done but they forgot to ask for a couple of things when giving up their souls. They forgot to ask for the ability to write. Their sentences don't flow; in fact, they don't even pretend to flow. These

men (yes, they are all men) asked for the divine ability to layout; however, they forgot to ask for "Engrish" skills. They so bad that they make me sad. For one particular EIC, he should have asked for an walnut cracker. True story, bro.

You mad, bro?

In public, they're sweet and cute and oh so snuggly. Behind the closed doors of the IW cave, it's a very different story. These EICs are known to bruise it and lose it. They defenestrate things, they bitchslap little girls, and they yell at babies. More often than not, they employ the Imprint to smack their subordinates upside the head and to threaten death when articles don't arrive on time. More scary is their look of serenity when these actions take place. You think they're happy when they're smiling... but they're not. They resemble the Joker with his perpetual smile which hides their capacity to demolish any self-respect or dignity you had. Most importantly, these EICs are master delegators given their aptitude in scaring the 'bejezus' out of you. They don't actually do much and feign business by having 'assignments' and 'homework' and 'all the FYDP things.' Whatever you do, don't anger it.

Do you even layout?

While the Overachievers bask in the glory of their Tetris-master-like newspaper

spreads, these EICs are noobs when it comes to layout. They are known to forget stroke weights on pictures, have character spacing in the positive or negative fifties (which ends up rivaling Madonna's gap teeth when it comes to spaces in words), and consistently "forgetting" to put articles in the paper. These people also can't line text up with the border or remove the extra black space in the byline. Weirdly enough, they are loners and love to shut themselves up alone in the IW Office (with our without pants on - I wouldn't know) and attempt to layout. Come Sunday night, they're still not done and are starting to stink from failing to leave the room and do menial things like shower and eat. Thankfully for them, they can write. Unfortunately, they usually write crap; I remember one EIC writing 1500 words about fonts...yeah, it was exhilarating. Also, they love to place random and useless pictures for no reason (because newspapers are like picture books...) since they haven't planned ahead to account for the fact that they two blank pages to fill with something; anything usually goes for them. They also swear by Macs; just sayin'.

That pretty much sums it up until I encountered the fourth kind of EIC recently. This one couldn't ask for anything from me because he had no soul to barter with. It's probably because he's a ginger (and everyone knows that gingers have no souls).

THE TIN SOLDIER

Ellen Page Fan Club

The One the Only
ELLEN PHILPOTTS-PAGE

Assistant to the Editor
Jacob Terry

Pony Pit
Maggie Maclean
Rainbow Dash
Pinkie Pie
Applejack

Dead Ghost Cat
Natalie Merritt

You Wouldn't Download a Ghost!
Stella Blackstone

Go Ahead and Touch
Trish Not-Below-the-Belt

Homeless in Harvard
Young Lisa

Loved a Boy
Lucas Hudson
NO, PICK ME!

Mouth to Mouth
A Little Bit Satly
A Little Bit Sweet

Soft Candy
Chewy Like a Peacock

One Last Stand
Kitty Pryde

Future Day in the Past
Shadowcat

Pregnant with Child

Juno MacGuff
Paulie Bleeker
Leah
Mac
Bren
Mark Loring
Vanessa Loring

We Must Go Deeper

Dominick Cobb
Arthur
Saito
Ariadne
Robert Fischer
Maurice Fischer

Super-D-Duper
Libby
Boltie

Whip it Out
Pure Bliss

The Tin Soldier is not a forum for thought-provoking and informative articles, and has no association whatsoever with the Society of the Travelling Pants. Views expressed in *The Tin Soldier* are not those of the authors and do not necessarily reflect the opinions of Chuck Norris.

The Tin Soldier encourages submissions from students, faculty and members of the Non-Existent Action Committee. Submissions should reflect the concerns and intellectual standards of the The Society of the Travelling Pants in general. The author's name and phone number should be included, except if they are non-existent. This information may or may not be posted on our website.

All submissions, unless otherwise stated, become the property of *The Tin Soldier*, which reserves the right to refuse publication of material which it deems too suitable. However we're so desperate for content that we'll likely take it (but we might just send it to *Imprint*). *The Tin Soldier* also reserves the right to edit grammar, spelling and text that do not meet university standards, but engineers suck at english so it's a low standard.

Mail should be addressed to PJ Katie, c/o YTV Canada, P.O.Box 7500, Paris, Ontario, N2L 3W7. We do not currently have a phone, however you may redirect all inquiries to Kickoff's, as we're likely there. We don't have a fax number as no one uses faxes anymore.

Mike Duffy Resigns; Bieber, Ford Among Top Replacement Candidates



Having determined that being a member of the Senate does not make him immune from laziness, ineptitude, and corruption; many speculated that embattled Senator Mike Duffy may decide to resign from the Senate in hopes of finding an even cushier and less transparent quasi-retirement position. The delay in his decision led many to speculate that Duffy had finally realized that an even cushier position may be impossible to find. However upon realizing that he may actually have to live in Prince Edward Island year round instead of two sunny, hot weeks in August at his Cavendish cottage, the soon-to-be-former Senator has announced he will soon be giving up his seat. Although he has not revealed his future ambitions, most speculate he will pursue a role in municipal politics in Montreal as soon as the next City Councilor is arrested.

It is now up to Prime Minister Stephen Harper to appoint a Senator to replace Mr. Duffy. Fortunately for the Prime Minister, the candidate will not need to own property in Prince Edward Island, since they can simply move into Mr. Duffy's vacant cottage for at least fifty weeks of the year. Fortunately for Mr. Harper there is no shortage of entitled and washed up household names to choose from, all of whom have their strengths and weaknesses in terms of senatorial qualifications.

Many believe that Mr. Harper may try to push a youth movement in the Senate. This has led some to speculate that singing sensation Justin Bieber (whom I will refer to as the Biebs) may soon replace Mr. Duffy. There is no doubt that his youth and fame

will add some much needed trendiness to the Senate, where the average age is 65. His considerable wealth means that he will not need the help of top Conservative staff members to pay off his inevitable expense claim discretions. On top of this, the Biebs will need little training on the workings of the Senate, since he is already rarely seen near Ottawa, his opinions hold little legitimacy and he already has his own public relations team experienced in playing down his growing list of stupid statements and actions. On top of all of this, he is already the butt of many jokes amongst Canadians. In many ways, the Biebs is just as senatorial as Mike Duffy. If the Biebs turns down the decision, many speculate that Harper may instead authorize the extradition of the Bieb's pet monkey, OG Mally, from Germany to Canada to fill Duffy's seat, who would be by far the second most famous Senatorial candidate. Unfortunately, many fear OG Mally may be overqualified for the position.

Other insiders speculate that the Biebs is an unlikely choice because if he were to take Duffy's place; Duffy's custom-made fat-fingered keyboard, oversized office chair and handmade chin supporting neckties may all go to waste. It would be a shame to waste tax-moneys. In order to take advantage of Duffy's oversized clothing and office equipment, many speculate that the next candidate may be a more well-rounded candidate. And of course, it would be difficult to find a more well-rounded politician then Toronto's fat and sweaty ball of fun Mayor, Rob Ford (who I will refer to as Fordsy). Unfortunately, Fordsy is in office until next year's mayoral election, and unless some sort of explosive scandal takes place, it looks as if Fordsy has a strong chance of re-election (for those who are wondering, smoking crack with drug dealers is not nearly explosive



o.canada.com

Biebs, Looking Very Senatorial, Meets a Much More Casual PM Harper

enough). Fortunately for Prime Minister Harper, Fordsy's brother and mouthpiece Doug (who I will also refer to as Fordsy) is just fat enough to fill the (oversized) chair of former Senator Duffy instead. Unfortunately, neither Fordsy has a monkey to fill the position if both brothers turn it down.

Beyond Fordsy and the Biebs, there are a few candidates who could take over Duffy's seat. Retired astronaut Chris Hadfield is a well respected, intelligent public figure. If he was less well respected and intelligent he may have been considered. The same can be said for pretty much every

candidate other than Ben Johnson, Chavril (the singular person created by the unholy marriage of Chad Krueger and Avril Lavigne), Conrad Black and any type of poutine that does not contain cheese curds. Oh, and maybe Ben Mulroney. Still, none of them have the class of the (pictured) Biebs or the well roundedness of Fordsy. Regardless of who Mr. Harper chooses, it will take great accomplishments of greed, fatness, and entitlement to fill the senatorial shoes (no doubt purchased on taxpayer's dollars from a store not located in Prince Edward Island) of Mr. Mike Duffy.

Bitchface Vaccine Introduced, Rejected



DR DISEASE
WHAT ARE YOU
LOOKING AT?

On June 18, 2013, researchers from the University of Waterloo announced that they had developed an amazing new vaccine for bitchface. Bitchface is a crippling disease that occurs mainly in females, but can occur in males as well. It usually emerges during or after puberty. Symptoms of bitchface include angry eyes and a turned-down mouth. There is social stigma

associated with bitchface, even though it is a harmless cosmetic disorder: afflicttees are shunned and not invited to parties as the general populace is afraid of bitches (and potentially being bitten by them).

The vaccine is comprised of sunshine and puppy hearts and works by forcing children to smile all the time so that when they relax they always smile, rather than adopting a scary neutral expression. The researchers suggest that it should be applied to males and females under 13 who have not yet developed bitchface, since older people who have bitchface tend to have their faces stuck that way.

A cure for bitchface in post-pubescent advanced sufferers has not yet been developed, though a recent therapy known as S-3X has been known to relieve symptoms temporarily: unfortunately, S-3X can be extremely expensive and not easily procured by members of the general public, including those with bitchface. Botox is also effective in relieving the symptoms of bitchface, though in some cases it causes one's face to freeze in an even more horrifying expression.

But just as quickly, the Fundamental Association of Parents has rejected the vaccine for bitchface. "Allowing our daughters to get vaccinated will make them desirable to men instead of scary. This vaccine will promote promiscuity. We will not allow our daughters to look like wanton scarlet women."



bp.blogspot.com

Kristen Stewart: Queen of Google Image "Bitchface" Search

IW Fee Sparks Outrage

REAL TALK NANCY
4A DA HOOD

EngSoc has voted to increase the incidental *The Iron Warrior* fee by 200% to cover increased expenses incurred by the EIC, including new chairs from IKEA, air conditioners, milk, and pizzas with pineapple. This change will take place immediately. The outstanding balance can be viewed on Quest, under Finances.

Students who do not pay their outstanding balance will not be able to take their

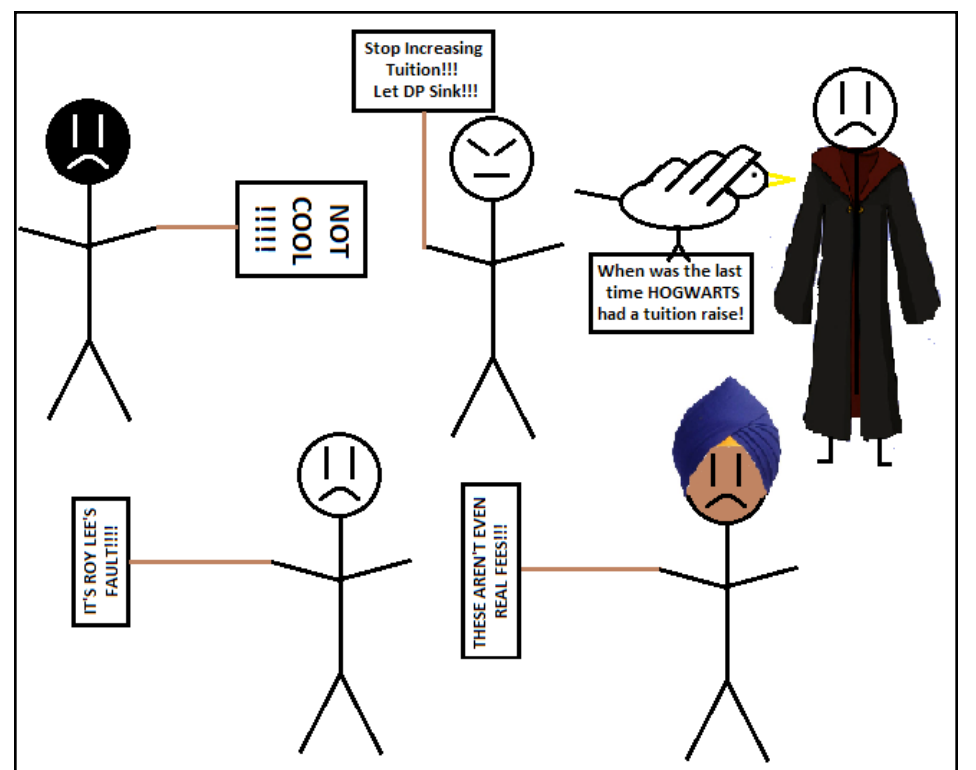
final exams until the fee has been paid.

Because of the end-term fee hike, a protest was held in the Engineering courtyard on July 24, 2013, to little success.

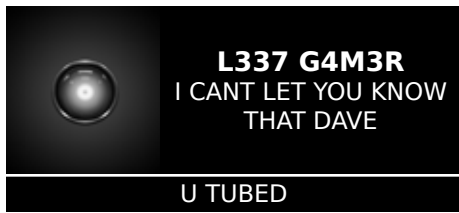


bp.blogspot.com

Students Gather at Fee Hike Protest



Xbox One Hopes to Auto-Record Couch Quickies, Help with Long-Distance Relationships



Microsoft announced at the Erotic Entertainment Expo (E3) today that they have some exciting new initiatives ready for their highly-anticipated video game console, the Xbox One. Previous appearances of the console highlighted the daily internet connection requirements and mandatory integration with their Kinect camera. Their E3 announcement, titled "Divergent Ideas for Creative Kinect Services," featured some interesting features

to improve non-platonic relationships, such as automatic recording of sexual encounters in the living room.

Microsoft representatives were eager to share about the recording feature, and could not wait to share with reporters from the hard-hitting *The Tin Soldier*. "Due to the consistent connection of the Kinect to the Xbox One, we have found intriguing and intimate ways of recording spontaneous and sensual moments in the video game player's life," gushed Harry Peacock, Microsoft's Director of Online Universal Casual Harmonious Experiences. "When you decide that you want to change things up with your sexual partner and do it on the couch instead of in the bedroom, Xbox One will be there, watching. We've even pro-

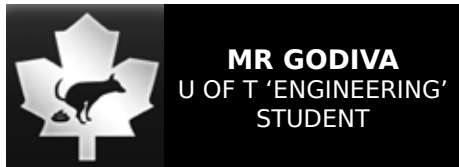
grammed the system to listen for common phrases heard during these encounters, like "unnnh," "ooh yeahh" and "not there." As expected, this feature is turned on by default."

Acknowledging the fact that hardcore gamers do not often experience these situations, Peacock hinted at some alternative features offered by the Kinect that can appeal to that customer base. "We know most of you who play Halo or Call of Duty haven't matured to the point where you can properly pleasure a potential partner, so in our new version of the Kinect, we have the ability to measure for instances where a player is squeezing the squid, like if there are sounds of increased breathing or if there are drops of salty liquid covering the players face."

Peacock stated that videos generated through the automatic recording feature will be automatically uploaded to Microsoft's servers to be "disseminated" to other consoles, where their players can assign Gamer Points for videos they like. Players can also nominate the creators of each video for Xbox Live Achievements. "I hope the videos of me rubbing one out to Cortana get me a couple achievements," spilled Halo champion 69n00b. "I'm really excited to get 'Five Minute Marathon' and 'Curiosity Killed the Cat.'"

Microsoft plans to incorporate this feature upon launch, giving their play testers, developers and the NSA many more hours to test out their equipment before release.

U of T Skule Cannon Seen Smoking Crack Cocaine



The University of Toronto's Skule cannon has been recently caught on video smoking crack cocaine. It has been generally unresponsive to inquests and question about its drug use, probably because, since it is an inanimate object, it has difficult speaking. Although it may also be afraid of incriminating itself. In the past, the Skule cannon has been accused of evicting paying passengers from a TTC bus, in the rain, so that it could pick up the Lady Godiva Memorial Band from football practice. The cannon was evicted as the supreme leader of the Skule when it acted in manner that was in direct conflict of interest of its role. This latest scandal further reduces the reputation of the already tainted cannon.

The Iron Warrior got a tip off from someone

claiming to have incriminating evidence to prove that:

- The Skule cannon smokes crack cocaine
- There is a video of the Skule cannon smoking crack cocaine, taken within the last six months
- Skule cannon purchased its crack cocaine from a crew of Toronto drug dealers that service a veritable who's who of A-list mascots

This tipster however wants six figures to release this video. For this reason, the EngSoc fee has been raised by \$5.00 to \$21.50.



Increase in Stupid Debt Attributed to Steam Sales



Every year, the Faculty of Engineering conducts a debt load survey to determine how much debt each student is carrying throughout their undergraduate careers. This past week, the results of last year's survey were released and had a number of surprising results. The most shocking of these, was that engineering student debt has risen over 31.415% year over year.

In response to this announcement, the Faculty appointed Professor Aigit Nomony, of the new Department of Engineering Business Trades (DEBT), to the newly-created position of Associate Dean, Debt (ADD). Professor Nomony stated that he "hopes to work to the root of this problem as soon as possible, no matter what it takes." Another member of the faculty who wished to remain anonymous also stated that "appointing someone from DEBT to ADD is a [redacted] [redacted] mother [redacted] [redacted] zeppelin [redacted] [redacted] decision."

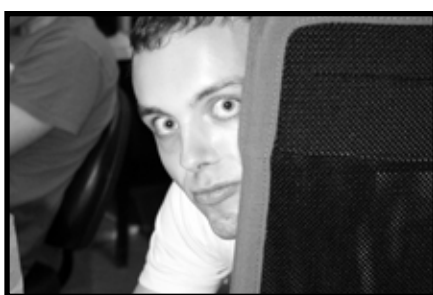
A few days after Professor Nomony, the faculty provided a few more details on what

the key contributors were towards this debt load increase. The largest of these contributors, was video game purchases through the online game platform, Steam. Professor Nomony, in this announcement stated that "every year Steam has been increasing the frequency of its sales. From both AIF forms of new students and the results of this survey, the number of engineers would consider themselves 'gamers' has increased as well. This has resulted in a deadly contagion on the wallets of our students."

The faculty made a number of suggestions to try to fix this problem. First, they recommended that IST extensively throttle all connections to Steam as a preventative measure for students buying so many games during sales. Second, they recommended that students spend more of their time outside and doing other fun activities such as hopscotch, jump rope, skipping, and making loud noises at phallic objects. Third, they recommend students learn from their mandatory economics course and invest their money into high-return investments instead of video games.

Results of a new survey on time management will be released next week. Rumors are that the game "League of Legends" will be featured and have a similar response from the faculty.

"Your soul-less EIC asks you to steal him a soul, whose soul do you steal?"



"I give him half my soul, and use him as a horcrux."
Wand Wangler, 1A Dark Arts



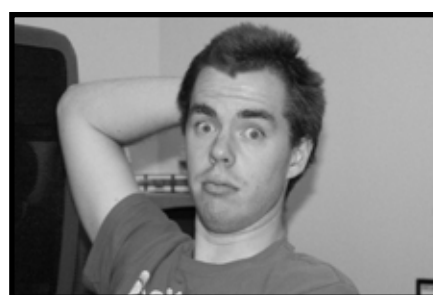
"I'd go ask the ECE department for a soul."
Certified Soul Hunter, 4Sure Fantasy Land



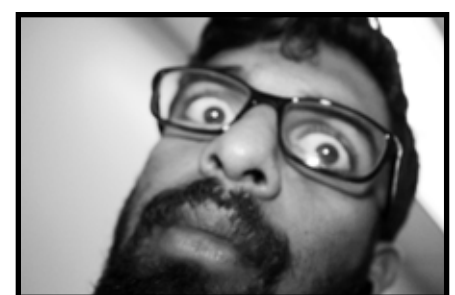
"The souls of EIC past."
Forever Farzi, 4one 4all



"Maybe someone left a soul in the old office."
Sproket Sandra, 1Fixed Gear



"Look through the archives for the treasure map to the land of lost souls."
WHAT HAVE I DONE, 4EVA IW



"Ellen Page"
Pirate Pete, <3 Your Booty

Digital Image Capture Technology



With the advent of the digital age, the ability to produce and distribute quality content has improved drastically. One large factor in this is the development of digital image capture and processing. These days, actors and other crew do not need to wait until the film is developed to see if their performance was adequate or not. Re-takes have become virtually free due to the lack of any physical recording medium. Furthermore, user generated content has improved significantly in quality. A low budget film has access to tools that weren't available to the best directors ten-fifteen years ago. Consequently, movies have become cheaper to make. One example of this is the horror movie "Paranormal Activity" which was made on a budget slightly more than the average engineering co-op pay for four months (which went on to make over \$100 million in the box office). Still photography has also enjoyed a massive growth of hobbyist photographers that sometimes produce content comparable to the best photographers (although very often, the dude with that Canon Rebel that doesn't know what DSLR stands for can be fooled into falsely believing in the superiority of his own talent). The vast amount of entertainment we have to choose from is immensely gratifying and is often blamed for

the rather short attention span that audiences currently possess. For all this, we have to thank the ability to digitally capture and store images (both stationary and moving).

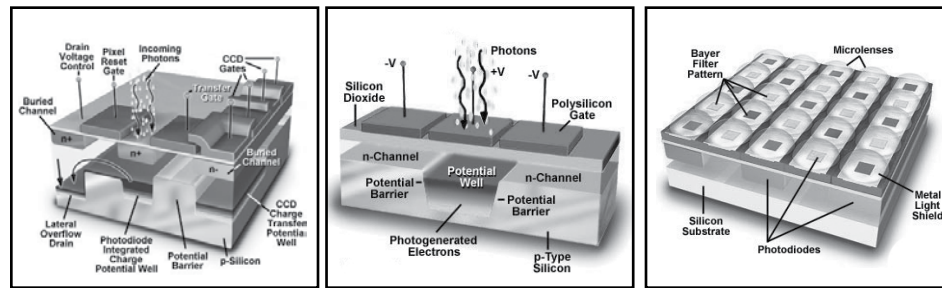
Digital capture of images started with rather humble beginnings at AT&T Bell labs in 1969 (the same year man reached the moon). Charged Couple Devices (CCDs) which form the older generation and better performing image capture implementations were initially invented as a memory storage device. This idea went on to be first used for image capturing two years later and the inventors went on to receive a Nobel Prize in Physics in 2009. Without getting into the details, CCDs provide a good quality image with low noise due to their high quantum efficiency (ability to convert photons to electronic signals). However, these CCD sensors are more expensive to manufacture due to their relatively custom fabrication process and have problems transmitting high quality (low noise) images rapidly because the data is transmitted off of the chip in the form of analog signals.

This is where the presently ubiquitous complementary metal oxide semiconductor (CMOS) imager comes into play. The University of Waterloo has made a large impact in the development of these. In 1969, Dr. Savvas Chamberlain, a University of Waterloo professor, proposed the idea of integrating an amplifier and a photodetector for every pixel of an image (thus coined an Active Pixel Sensor because it consumes power to amplify the signal). For several years, this proved challenging to implement due to the large variance present in the metal oxide semiconductor (MOS) production technology. In the 1980s, the advent of the microprocessor led to a boom and subsequent standardization of MOS technology in the form of CMOS (complementary metal oxide semiconductor). With the establishment of CMOS as a well-controlled and stable process, the active pixel sensors built in the CMOS process flow became more reliable, viable and economical. Since then, CMOS has dominated the market of consumer grade image capture. Initial problems

with CMOS image sensors included a large amount of electronic noise. CMOS technology has come a long way from then.

In addition to these fundamental inventions of digital sensors, there has been a lot of secondary development. With the onset of cell phone cameras, there has been a huge impetus to shrink cameras even further. Initially, cameras had tiny electromagnetic actuators to move the lens to bring the subject into focus. However, these components caused electromagnetic interference with other parts of the camera. Also, power and heat generation became important issues to address. For this purpose, the next generation of camera modules used Micro-ElectroMechanical Systems (MEMS) based systems to perform this function. However, with the advent of large megapixel count sensors on camera phones, there was a need for larger optics. However, in order to make a balanced compromise between performance and size, Extended Depth of Field (EDoF) was invented. EDoF cameras use an asymmetric lens to focus objects from varying distances onto the same sensor. Although this results in a jumbled bunch of light on the sensors, smart electronics and algorithms undo this into a well resolved picture ultimately.

I am still amazed by all this development in a camera module. The future of camera technology might lie in something like the light field camera by Lytro. I hope this was informative and the next time you make a Vine, think about all the years of technology behind it.



Left to right: CCD Sensors, CMOS Sensors and Light Field Sensors

Being Better Donors



This spring term, the Engineering Society has been incredibly successful in promoting their charitable program to purchase goats for rural Africans. It was so successful that they have decided to put some money toward other facets of the Adopt a Village program, which encompasses not only alternative income programs but also those for education, water access, and community health. Both initiatives are in support of the popular Canadian, non-governmental organization, Free the Children. The success of this fundraising goes a long way in highlighting the altruism and awareness of our engineering students. It is incredibly important that the livelihood of others is a concern that resides within us. After all, aren't engineers supposed to be making the world a better place? There must be a place for this empathy beyond row-reductions, derivatives, and optimization and clearly the Waterloo engineering community is seeking this.

However, best intentions do not necessarily yield the best outcomes. In extending empathy beyond applied sciences, it can be forgotten that the societal systems that drive poverty are often more complex than the problems within engineering texts. The following is a critical reflection on Free the Children, as a relevant case study due to its selection by the Engineering Society for this term's charity programs.

The Adopt a Village program embodies the model of Free the Children. Their mission states that, "sustainability and community ownership is the goal of all of Free the Children's Adopt a Village projects." The pillars of the program include education, clean water and sanitation, health, alternative income and livelihood, and agriculture and food security. These together comprise the organizational model, "many solutions

that, together, get the job done." While the intent is aimed in a sensible direction, it falls into contradiction with the means to create this change.

There have been decades of efforts directed towards the theme of giving. Giving, in the case of Free the Children, means "gifts" that help a community rise up from poverty and gives them ownership. This intent is noble and is aimed to share the accumulation of wealth in Canada and beyond. However, through review of the organization's annual reports, online resources, and news articles, there is no evidence presented other than the volume of materials delivered to prove that change has been made. Poverty has remained entrenched as a norm around the world and billions in external aid has not proven to be the bottom line solution this issue. What absolutely must be realized is that giving is not a means to an end; it is much more complex. These are issues that no amount of goats, schools, hospitals, or wells will fix alone. There is no single, unique solution to poverty, or at least none that have been found to date. It is time that this is recognized, and the idea of easy fixes to poverty be discarded.

On the largest scale, countries experiencing poverty are often subject to international market forces, which actively discourage development. The largest economies in the world thrive based on trade protectionism and internal wealth generation. African countries are often required by international trade agreements to avoid economic practices that we know promote development by the Western countries who provide aid. A key example can be found in the agricultural industry. Countries like Canada and the U.S.A. provide monetary aid to African nations, while obligating them to purchase Western exports. The effect is that rural Africans often end up eating American rice while their own plots produce rice, which cannot meet the low prices of foreign, subsidized grains, which of course means they require more aid.

Wealth must be derived internally and not

given to a community. Selections of items from a catalogue do not purchase a route out of poverty. A sudden burst of goats in a local region gives one family wealth while flooding the marketplace. A new schoolhouse needs not only competent teachers, but also those who are accountable to their pupils. The flow of water from a well only lasts as long as it can be kept operational.

The reinforcing loops that have given Canadians our advantage will take away that which we give as it has for decades past. It is these systems, the ones that enforce poverty and sustain demand for philanthropy, that must change. Billions of dollars have not yet proved the stimulus required to shift the balance and many more billions certainly cannot be expected to do any better. We must reassess our failing models and find ways to make a real shift in the balances that make extreme poverty as it is today. Perhaps financial wealth is not the only source of inequality and our burden in Canada is not just to redistribute what we have.

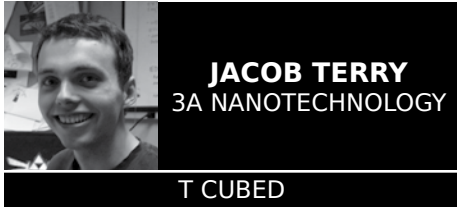
It is important to challenge the idea that "others" require our help at all. Africans are fully capable of generating their own solutions to poverty. In fact, the most successful instances of poverty reduction have stemmed from African solutions. To believe that Africans are in need of our ideas to fix their countries places Africans in a position of powerlessness and promotes Westerners to the position of saviours. This is clearly evident in the voluntourism phenomenon, a service Free the Children provides to some of its members. If there is one thing rural African villages do not lack, it is the capacity to provide labour. It is absurd to think that North Americans, many of whom are from cities and have never worked manually before, can provide any sort of effective labour in this situation. Further, do we know for certain that this approach can solve the problems of a people distinctly different than our own? Instead, stand in solidarity. Expect that Africans are able to solve their own problems and use fact-based decision making to discover the best way to support

that reality. Free the Children has certainly taken steps in this direction with their aim to be sustainable and push for ownership, however, it remains clear that their mission has not departed from its founding roots; that is, mobilizing North American youth leaders to deliver materials that can "be the change."

The development sector has many alternative approaches using this solidarity concept that the Engineering Society and its donors may consider. For example, one development approach focuses on human rights, such as that of Oxfam Canada. They have put their focus into breaking the cycle of poverty through women's rights, charging that no progress can be made in development until policies, laws and customs are changed. Another direction is through investment, chosen by groups such as Acumen and Kulemela Investments. They focus on providing investments to important social enterprises and agribusiness entrepreneurs, respectively, to provide the capital required to develop income and services that can drive progress internally. These examples (and more) focus on affecting the systems that underpin the cycle of poverty in an effort to grow a more stable and well-provided community from the basics of economics. While their metrics may be harder to assess, their missions more challenging to articulate to donors, and their efforts spanning longer terms to succeed, these NGOs create change with dignity, not dependence.

In light of these arguments, the efforts of the charity directors and donors should not be minimized. The point of promoting alternatives and criticizing decisions is to encourage a spirit of iteration and improvement. This is the spirit of the above NGOs; to approach a messy topic with admittance that there is no answer or complete package that they can offer to "solve poverty." Instead, it is about taking challenging stances to push for a change in the status quo that traditional methods may never be able to unlock.

The Moto X and the Ideal Custom Phone



Google and its Motorola division are announcing the Moto X on August 1, which is Motorola's first smartphone developed entirely since Google's purchase of Motorola in 2011. Unlike many typical announcements, the phone has been prone to seemingly intentional leaks, as it features prominently in invitations for the event. Google Chairman Eric Schmidt has also been seen in public holding what appears to be the Moto X. As long rumoured, the phone is expected to use a near-stock version of Android 4.2.2, satisfying many Android users that prefer the version Google prepares without the cruft added by other manufacturers.

One of the most interesting features expected in the phone is its level of customizability. Android is well-known and liked by those who enjoy changing the features of their phone software, but this model is rarely applied to smartphone hardware. The Moto X is expected to move past allowing people to just choose a storage size, opting to also allow for customization of the trim and backplate colours. Colours in general are not much of a new thing, as you can get other devices in multiple colours, but the options theoretically offered by Motorola will be more fine than other options currently available. The backplates would be swappable as well by nature, so colours could change whenever a user

feels they want a new colour for their phone. Users are potentially going to be able to upload their default wallpaper when ordering so the phone comes preinstalled with their preferred defaults.

For iPhones, by the nature of the software and model, it makes more sense to offer a prefabricated phone with preset options that a user can easily jump into and use. For Android phones, an extended Moto X model could work well. Android users like custom features in their software, and would likely appreciate a well-made, reputable, build-yourself kind of phone that comes with customizable parts. RAM, storage space, camera quality, colour and screen size could all be parts that are upgradable for a user should they desire different features. This model would follow how computers work now, where a laptop or desktop can be ordered with particular displays, processors, memory and accessories that match the user's taste.

The ideal version of this model, given the restriction imposed by the form factor of a smartphone, would allow for a single overall layout with changeable features that conform to defined specifications. Much like the iPhone case industry thrives off a standard form factor for each phone model, this potential Android phone could have defined component sizes that the manufacturer or third-parties could abide by for upgrades. Many of the components inside the device, such as memory and storage, likely follow predefined sizes already, which would make this model easier to implement. The user would then be free to pick whether they want the nicer camera or the cheaper one, if looking at

monetary differences as a primary factor in their options or whether they want one that does better video or takes nicer photos, if functionality is their primary differentiator. The phone would then be a platform for these changes in their phones, allowing for a large support community for the device that offers technical help as well as functional offerings for those who want to make changes to how their phone works.

Many may cry foul at an attempt to make customized phone parts, claiming it destroys the simplicity of marketing smartphones today, since everyone rallies behind discrete phone models, yet for the dedicated Android segment of the market that prefers to have customized devices, this could be a viable model for future smartphones. The rumoured Moto X is by no means as customizable, but it presents an interesting possibility for a device that carries features that are rare in the current smartphone industry.

Another argument against the model could be fragmentation, as one of the aspects of iPhone development that numerous developers find attractive is the ability to test on only a few devices to reach a desirable number of potential users. In Android, much effort is already being made to reduce developer dependency on testing every potential device by having developers prepare multiple scenarios and responsive layouts when building their apps. Offering multiple speeds, cameras or other potential options is something developers often have to consider for Android as it is, since not everyone uses the same phone, so offering multiple configurations of the same phone would

likely not be the greatest concern.

Looking at desktop computers especially, it's clear that there is a market for people who desire complete control over every aspect of their device. Part of the appeal for custom-built machines is that the user can build their own configuration of what they desire, and it is theoretically cheaper because they can buy the parts without having to pay for the service. There comes an inherent risk involved that if you build it yourself, you are your own customer service, but for some people that is an encouraging proposition. The people who like their custom desktops likely wouldn't mind having something handheld that's custom in the same fashion. This desire to unlock the capabilities of one's device and its potential is something that drives many people to install various distributions of Linux on their computers or to host home servers. As the oft-quoted book *Drive* by Daniel Pink suggests, mastery is one of the key aspects of motivation for people, and an enthusiasts ability to master their ability to build a computer that does what they want is an objective that likely motivates them to continue doing it.

It may not be for everyone, and it may not even be that viable as a business model, but it's hard to imagine that there is not a way to successfully sell a device as a platform as opposed to as a unit, particularly towards the market segment that prefers paving their own road when it comes to technology. If the Moto X does what it is rumoured to and more phones and tablets follow that route, there will assuredly be a niche carved for those enthusiasts to continue following their passion.

Current Maglev Reaches 500 km/h Speeds

Continued from HYPERLOOP on Page 8

Musk decided to support an alternative high-speed rail project to California's current project as California's high-speed rail is expected to be one of the slowest and most expensive high-speed trains in the world per mile. The Hyperloop, he claims, would be much cheaper to build, be the fastest mode of transportation between cities, and run entirely on solar power. The major downside to implementing the system, assuming it would be approved,

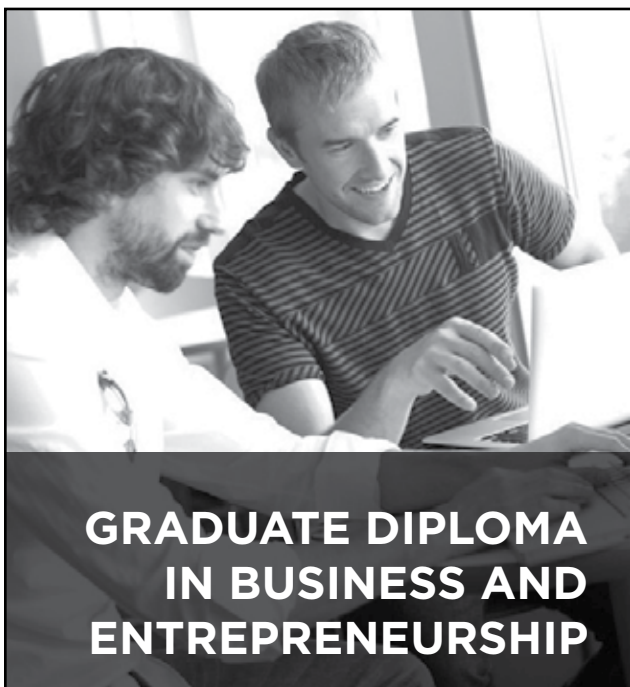
would be that it would have to use an extremely straight path between cities, as any small turn at that speed could produce enough force in the vehicle to make passengers feel queasy.

Currently, the fastest high-speed train in the world at 500 km/h is the L0 series train built by Mitsubishi and Nippon Sharyo in Japan for the Chūō Shinkansen, a high-speed magnetic levitation (maglev) line that will connect Nagoya, Osaka, and Tokyo. The Chūō Shinkansen is part of the greater Shinkansen line, known around

the world as the Japan's bullet train, that has been operational since 1964. Any train at the speeds offered by these vehicles eschew wheels for magnetic levitation, as wheels are a significant drain of energy through the friction between the wheels and the rail bed. Maglev trains are able to speed up and slow down much more easily than a wheeled train, since there is no physical object that needs to spun down like a train wheel.

If the Hyperloop is as feasible as Musk suggests, it could put the United States

at the forefront of high-speed transit; an admirable move for a nation on a continent known for its enthusiasm for suburbs and gas consumption by personal cars. It's encouraging that California is aiming to build a high-speed rail system, as the transit infrastructure in North America is sorely lacking. Being able to connect major cities as separated as those in North America would be good for making distant travel a more palatable prospect for people and fostering increased travel and community between locations.



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C002601



UNIVERSITY OF WATERLOO
FACULTY OF ENGINEERING

Point vs. Counterpoint

POINT

Should Video Games be Considered a Sport?

COUNTERPOINT

MICHAEL LAANVERE
3A MECHANICAL

Recently the United States government officially recognized *League of Legends* players as professional athletes. U.S. Immigration now allows gamers entering the States to use a P-1 visa. The P-1 visa is meant for professional athletes and allows them to stay in the United States for 5 years. The decisions came after a lengthy back-and-forth between *League of Legends* developer Riot Games and U.S. Immigration until finally the government accepted Riot Games' evidence. Now that the U.S. has officially recognized professional gamers as athletes, effectively stating that gaming is a professional sport, can Video Gaming be considered a sport?

Putting aside the fact that one of the world's most influential nations has recognized gaming as a sport, my answer would be a resounding erm...sort of? Technically? I guess? Not the most confident or smartest thing to say in a debate I know, but the definition of a sport is vague, and differs from person-to-person (hence this PCP), and various international organizations have different definitions and often contradict themselves in some cases.

Let's first look at what a professional sports is: a form of entertainment. The thing that makes professional athletes "professional" is that they are getting paid. And they are getting paid with revenue accumulated from spectators, sponsors, and broadcasters. That is what makes professional sports a segment of the entertainment industry, an industry of which gaming, including professional gaming, is a key component. Let's look at the similarities between professional sports and professional gaming in terms of entertainment value. Last year's *League of Legends* World Championship had 8.2 million unique viewers and a peak concurrent viewership of 1.1 million people both on television and online. As Riot Games e-sport VP Dustin Beck has said: "Our viewership numbers are stronger than 80 or 90 percent of the sports covered on ESPN. In Shanghai [All-Star event in May, 2013] we had 18 million unique viewers. We are seeing growth over growth for every subsequent event that we do." Also, events usually bring in spectators in the tens of thousands.

The spectators and broadcasting parts are there but what about the money? This year's *League of Legends* World Championship is taking place in the Staples Centre in L.A. and will have a prize pool of \$8 million, with the winners taking \$1 million of it. On top of the prize money competitors will also be looking for sponsors. Currently sponsorship in gaming is growing, with top teams looking for 7-figure deals. Some of the best gamers have annual salaries of around \$100,000. And though typically the sponsors are tech and gaming companies, just recently Adidas has sponsored a Danish e-sports team: the Copenhagen Wolves. Adidas will be producing all the merchandise and apparel for the team.

So professional sports and professional gaming both have spectators, broadcasting, sponsorship, and merchandise but does the fact that they are both similar entertainment sectors mean that professional gamers are the same as professional athletes? Well, we certainly took care of the "professional" part but let's look at the "athlete" part.

As I said before there is no universally agreed definition of what a sport is. Prob-

ably the closest is the definition provided by SportsAccord. SportsAccord is an organization for all the international sports federations. They have 91 members, each of which is a international federation governing a unique sport. SportsAccord categorizes sports into five categories: physical (e.g. rugby), mind (e.g. chess), motorised (e.g. F1 Racing), coordination (e.g. billiards), and animal-supported (e.g. equestrian). I'm not going to be one of those guys who says, "Gaming is physical because you have to, like, move your fingers and thumbs and stuff." Sure there are elements of dexterity, coordination, and endurance, but no more so than painting a portrait. I've played my fair share of *League of Legends* and I can say that it is more a game of concentration and strategy, and therefore should be categorized as a mind sport. There are some elements of dexterity and coordination that can make a great player even greater, but that is not what makes it a sport. It's very much a mental sport, and if chess and bridge are recognized as sports by SportsAccord, then why not gaming?

The Olympics themselves traditionally only include physical sports, yet they recognise chess and bridge as sports through the Association of I.O.C. Recognised International Sports Federations (ARISF). While we are on the topic of the Olympics, they have some questionable sports too. I wouldn't necessarily call shooting a physical sport, though it requires a great deal of coordination, and while rhythmic gymnastics is physical, there are points that are awarded based on the athlete's costume and makeup. Equestrian is another questionable sport that belongs more in the Horse Olympics than the Human Olympics, although I feel that the dressage event wouldn't make the cut to the Horse Olympics. Dressage is just the horse walking around an open field, occasionally galloping a little! I didn't want to pull the, "If that's a sport, then this is definitely a sport" card, but come on. If things like chess, bridge, and dressage are all considered sports, then why not gaming? It requires just as much mental strength, arguably more in some cases, and has a slightly larger physical component.

The definition of a sport is hazy to say the least. I like to think that there is a scale to whether or not an activity is a sport. I'd like to see someone try to argue that hockey isn't a sport, but activities like equestrian or billiards can be argued both ways. Some sports are just more...sporty than others. Which brings me back to my weak answer to the question "Can Video Gaming be considered a sport?", which was: sort of. Technically. I guess. Professional gaming should be considered a sport, it's just very low on the "sporty" scale.

CAITLIN MCLAREN
1T CHEMICAL

In the last few years, video games have become a near-universal hobby. From easy, repetitive diversions played on phones to e-sports such as *League of Legends* and *StarCraft*, games are enormous industries, in which companies, professional and amateur players, and fans all participate in. And now, *League of Legends* players who wish to compete in the United States are to be granted P1-A classification, allowing them to be designated as internationally recognized athletes. Legally, this video game is considered a sport.

Are video games sports? There are many arguments, both in favour of and against this designation. As the word "sport" does not have a precise definition, there are many people on opposite sides of the debate, and there seems to be no easy way to settle the question. To some, video games are a waste of time; to others, they are a true passion. One thing seems to be fairly plain: the granting of visas to professional players is far too minor a point to argue over. With professional gamers, the question of a security breach seems remote; gamers are not normally associated with espionage or terrorism.

However, the question asking if high-level players should be considered professional athletes is a somewhat different matter. Firstly, there is almost always a significant difference in the physical ability of a typical athlete and a gamer; and furthermore, now that the law views sports and gaming as fundamentally identical, there may be some cause for confusion, though not necessarily concern.

Athleticism is one of humanity's most ancient arts. The ancient Greek philosophers believed that it was necessary for a person to be fit in order to fulfill their humanity; their athletes were as highly lauded as today's. However, these early philosophers believed in balance above all: the ideal man was both an athlete and a thinker. The Roman proverb, "Healthy mind, healthy body" summarizes this attitude: Sports and mental agility are both necessary and fundamentally related, but not identical.

No one would question that gaming requires many mental skills: quick thinking, good reflexes, planning and puzzle-solving ability, and much more. These are important, and I will not deny it. These are skills that everyone should have. Nevertheless, these skills are equally important to and equally developed by more traditional sports such as basketball, football, or fencing. There is no other, more

specific mental skill stimulated and developed by games, save for one: ability at the game itself. This is not a bad thing. It is an exciting and enjoyable hobby. There can be thrilling competitions. But it is not enough to call something a sport.

Nevertheless, they are becoming widely acknowledged as sports, by players, companies, and the United States government. Is there a problem with this? Not per se- it is a widely enjoyed game, with huge tournaments bringing crowds of thousands and viewers in the millions. If professional players are to be given athletes' visas to play in competitions abroad, so be it. It is only a legal designation.

It is, however, problematic if people genuinely believe that sedentary activities are sports. For example, chess is similarly recognised as a sport. However, no chess player identifies themselves as an athlete or a sports player. However, many people (although not my colleague in the point, who takes a moderate approach) will passionately argue that their video game hobby is a sport. They say these things without truly considering what makes a sport- and it is not legal designation.

League of Legends, *StarCraft*, and similar games are exactly that- games. Sports develop the body, as they have for centuries. Games develop the mind. Ideally, a balanced individual will participate in both. If not, if someone's talents lie only in one direction or the other, let them acknowledge that without embarrassment. Someone who argues that games are good because they "really are a sport, if you think about it," are granting sports an overly exalted position, rather than promoting games. Let games be valued for their own merits in a manner similar to chess, and not for some imagined similarity to sports.

For it would seem that, for a long time, professional athletes are considered heroes and role models, while gamers are seen as "nerds," weak, and immature. This is problematic. Healthy mind, healthy body: both are equally important. Games deserve to be recognised. But not as sports. Professional gamers have skills developed over thousands of hours; their talents are celebrated by huge corporate sponsors and millions of fans. Is it a just recognition of their dedication and gifts to say "They are the same as football players and basketball stars?" They are not the same. They have a completely different skill set that should be praised for what it is, not for what it compares to.

Let *League of Legends* be respected for what it is. Video games are not sports. They are games. Games are fantastic. They don't need to be anything else.

iXpress Changes Coming in September

Continued from ION on Page 1

The stop will be the same, but the station will connect the GO train, VIA, Grand River Transit, intercity services like Greyhound, making it more convenient than the currently separated Charles Street Terminal and Kitchener railway station.

In preparation for getting supporting routes ready for the ION, the iXpress routes are being modified to better align with the future vision of the service, as announced this past May. The 200 will

be staying the same, but the 201 Fischer-Hallman iXpress is being permanently moved onto Columbia Street from University Avenue. As well, instead of going to Laurier, it will continue from Columbia / Hagey to King, then to Conestoga Mall. This may seem like unnecessary overlap with the 200 iXpress between uWaterloo and Conestoga Mall, but the ION will be eventually replacing that route and the 201 will be better servicing those who live on Columbia. The new 202 University iXpress will connect The Boardwalk to Conestoga Mall by going on Erb, then

University, then connecting to Conestoga Mall from the east. This route will be good for accessing uWaterloo, Laurier, Conestoga College's Waterloo campus and RIM Park. Both of these route changes will go into effect on September 2 this year.

As always, there are exciting new changes for Waterloo's transit system, and now we have a name and a vehicle to keep our interest until 2017. Most of us will be gone by then, but the improvement will be greatly welcomed by future students and those who live in Waterloo for years to come.

The Science of Attraction: The Importance of Kissing

LILLIAN
PHEROMONES

In Hollywood movies everything culminates in a kiss. Tension builds through the movie until finally it is released torrentially in some fantastic romantic scene. We seem to gain satisfaction when those two people, often the ones you have been rooting for all along finally become passionately lip locked. Bond is well known for his romancing ways; his movies often end with him smooching in some life raft or other similarly hidden escape. So what is so great about kissing? What makes us desire it so much? How did we evolve to desire this form of physical contact so much?

That first kiss can be a deal breaker for a potential relationship. Women, in particular,

place a great deal of importance on the first kiss and use frequency and quality of kisses to judge the status of the relationship forever after. Scientific research seems to suggest that kissing is a way to seduce and assess your potential mate. In a culture where many people have large personal bubbles and mask their natural scents with perfumes and deodorants, a kiss is the first point of physical contact. Without us realizing it, our bodies compare the other persons' immune system and other genetic traits to our own, subtly testing our genetic compatibility. Furthermore, kissing has been found to transfer testosterone from men to their partners, which generally increases their partners' arousal.

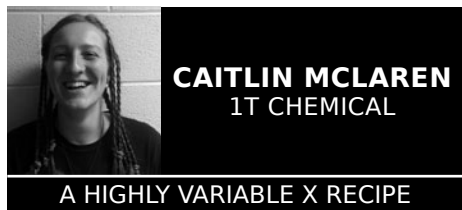
How you go about getting this first kiss is not rocket science, but to some it probably feels pretty close. At least rocket

science can be learned on your own, no human interaction required. Luckily to prevent you from crashing and burning in either situation, the internet has your back. A Google search of 'kissing' or 'first kiss' bring up plenty of articles, including WikiHow articles (with pictures!) which are fairly useful. They raise some good points in addition to providing step-by-step instructions. Primarily, one should note that physical intimacy is a two-way street. Before going in for the kiss, you need to break the 'touch barrier' by holding hands, putting an arm around the other person, or perhaps brushing their hair out of their eyes. Start small and pay attention to the other person. If you are comfortably maintaining eye contact, then you may be safe to kiss the other person. Even so, give them lots of chances to say no. Seek out a private spot,

where there is less pressure for the other person who might be undecided about how much they like you and how they like you. Start out by simply brushing your lips against theirs. (Eye contact can help with aiming your kiss.) Further kissing will be decided by the moment, techniques for which can be found online. Interestingly, about two out of every three people turn their heads to the right when kissing, so you have a higher chance of not bumping noses if you turn your head to the right. Who knows, they might have researched kissing statistics too!

Kissing is not as simple as one might believe. Like anything, it is the product of much practice and some good luck. Some people make it seem effortless while others can experience endless awkwardness. Best of luck in your endeavours of the heart.

A Highly Variable Fudge Recipe



The world is burning. You surf on the heat wave, convinced that those dark, winged shapes above you are not geese, but vultures. There is no way you are going within a mile of the oven. This puts you in a rather difficult position. You still need brain food. Glucose, even. Whatever shall you do?

You can make fudge. It isn't too difficult- you barely have to touch it, and it's delicious. All you need is cream, sugars (yes, more than one), and butter. Use any flavourings you want.

Use one cup of cream, two cups of the main sugar, and about half a cup of another kind of sugar. You can use whipped cream, or half-and-half. Do not use fake cream, because that is ridiculous and will taste like rubbish. You also need to use brown sugar

for the main sugar; white sugar might work, but it will behave badly in the pan and might ruin the fudge. Your other sugar can be honey, maple syrup, white sugar, chocolate chips, guava... you get the drift. Don't use table syrup, because that is not sugar but a mixture of fructose and hopelessness.



The second sugar helps prevent large crystals from forming, as its makeup is slightly different from that of the brown sugar, and keeps the mixture from becoming too homogenous.

Put all of the above ingredients into a frying pan. Turn on medium heat, and stir until it boils. Once it boils, stop stirring! Keep boiling until the mixture reaches 238 °C. If you don't have a convenient way of measuring this, you can use a glass of water: drop small spoonfuls of fudge into the glass. When the resulting

piece of candy is chewy but soft, the fudge is ready. Pour the mixture into a greased bowl (Don't scrape the bowl: it will encourage crystals to form, which will make your fudge hard), and vigorously stir in your flavourings. Use vanilla if you want a fairly simple, generic fudge. There are, of course, an infinite number of flavours you could try. Add in some of your favourite candy (unless they are Skittles; that will go very badly indeed). Nuts and little bits of dry fruit are also good.

Stir until the fudge is no longer shiny. No, I am not crazy: it will be quite shiny, but a little stirring will fix that. Well, a lot of stirring. Pour it into a pan lined with parchment paper and let it cool.

Share it with your friends; if it fails, share it with your enemies. Don't eat too much. I mean it. It will be tempting. Be strong.

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What a Counselling Appointment is and is Not



ANJALI GOPAL
3T NANOTECHNOLOGY

ENGINEERING WELLNESS

A recurring theme in this year's Engineering Wellness column has been the suggestion to go and book a counselling appointment. I started seeing counsellors at Waterloo this year, and I am a huge advocate of the service for many reasons: it's helpful, it's confidential, and it's free. That being said, many students may still not know what you may be able to achieve with a counsellor. Therefore, this article will tell you what a counselling appointment is...and isn't.

A counsellor will help you clarify your thoughts, feelings, and emotions. The number one benefit of going to counselling appointments is the process of figuring out what you may be feeling or thinking, and receiving guidance on why you may be thinking or feeling a certain way. Such introspection may seem strange at first, but if you're struggling with feelings you can't explain or control, or unwanted thoughts, a counsellor can help you gently probe them to achieve clarity into a difficult situation. A counsellor can also give guidance on how to restructure thoughts or feelings, how to understand our biases making decisions or looking at a situation, and—especially if you have a lot of nega-

tive emotions or energy in your life—how to redirect your energy into a more positive and healthy outlet. These may not be instantaneous results, but with diligence, they are achievable.

A counsellor will not tell you what to do. There have been countless times when I've gone into a counselling appointment with the expectation that a counsellor will tell me the best decision, or best course of action, in a conflict. Let me vehemently state that most counsellors will not do this. As stated above, they may guide you in your decision making process, and they may make you aware of the biases you have when making a decision, but ultimately, you will have the final say. This is for two reasons: first, a counsellor may not want to be held responsible for the decision you make; and second, part of counselling is to help you achieve independence and responsibility in your life. As my counsellor is fond of saying, the goal of counselling appointments is to make you ready for the day when you no longer need a counsellor.

A counsellor won't clinically diagnose you with a mental illness. Most counsellors won't clinically diagnose you with a mental illness. If you think you're suffering from depression, anxiety, or other mental illnesses, you would need to speak to a psychologist or a physician. There are some psychologists at Needles Hall and Health Services who can diagnose mental health illnesses. However,

you need to speak to a physician (e.g., at Health Services) or a psychiatrist if you need prescriptions for medication. Nevertheless, seeing a counsellor is a great first step at understanding your mental health, and counsellors can also make referrals to a physician or psychologist if you think you exhibit symptoms of a mental illness.

A counsellor will be able to assist you in groups. If you need relationship counselling with friends, family, or a significant other, a counsellor will be able to meet with you in a group setting. In such situations, and especially if you have been seeing your counsellor for an extended period of time, your counsellor may first take you aside to determine what he or she is allowed to reveal to the rest of the group, and to determine if you are truly comfortable with the other members attending the appointment. Nevertheless, these appointments may be helpful if you require a third-party mediator who is looking out for you, and your family or friends', best interests.

A counsellor won't make your problems disappear. Whether you're struggling with academics or your personal life, it's important to realize that counselling is not a quick-fix to daily problems. A counsellor is not the person who will bail you out of that assignment due tomorrow. Nor can a counsellor really make your stress, or bad mood, go away. However, a counsellor can give you strategies or resources to increase your coping mecha-

nisms in times of stress, and a counsellor may give you strategies and suggestions on time management if you're struggling academically. It's important to see counselling as a tool that can teach you how to deal with tough situations more effectively. It's not a magic button that can fix your life.

A counsellor can leave you feeling empowered and inspired. Counselling is all about improving problem solving strategies. There have been many times when I've gone into a counselling appointment feeling very confused or quite hopeless about a situation. However, a counsellor may give you many perspectives that you might not have considered, and may give you tools and techniques to deal with difficult situations. However, the key is to remember that you, as the client, must be willing to put in work too. I initially started going to counselling appointments with the expectations that I would simply talk my feelings out, but now, I take a pen and a book with me to write down any suggestions my counsellor may have to offer. Increasing your coping mechanisms is like building stamina — it's not enough to do it once. You have to do it continuously, and with conscious effort. And a counselling appointment may give you the motivation you need to get started!

To book a counselling appointment, visit Needles Hall, Room 2080, or Room 1320 in CPH (the First Year Undergraduate Office).

Save the Supers, PoPS, Bravest Warriors



NACHIKET SHERLEKAR
2B NANOTECHNOLOGY

TUBE IN TO THIS

Wow guys. It's been a crazy few weeks. I'm sure you noticed my absence from the last issue of this prestigious publication. I had just got back from Hawaii and wasn't really in a position to write anything. I had got into a standoff with a drug lord and then I had to rescue a family of drowning elephants and a bunch of other stuff happened involving volcanoes and a killer whale but I'm sure you're not interested; you're hungry for MOAR YOUTUBEZ right? Right.

The theme for this week's *TitT* is superheroes! Who doesn't like a good story where villains are brought to justice and the good guy/girl gets the guy/girl of his/her dreams, while simultaneously having a few laughs? *Save the Supers* is an entertaining web show that explores what a league of superheroes goes through when faced with a budget crisis. The show is the brainchild of Sandeep Parikh, who plays the character "Mermaid" (and stars as Zabo in *The Guild*), and it documents the activities of "The Super Force" as they deal with unconventional super-villains, an illicit super-baby experiment and their own out-of-proportion egos, in a style inspired by *The Office*. The show pokes fun at standard tropes used in superhero franchises, with the characters parodying well-known superheroes. Though low-budget, the show has managed to pull off amazing sets and costumes, and the special effects aren't half bad. The comedic style, while immature, is still mostly clever. Max Bird-Ridnell's character Night Knight is a joy to watch for his dark humour and dramatic persona. Jordan Black (Dean Spreck on *Community*) as Fleet Foot is also a blast. Hopefully the show gets the views and the momentum to push it to a second season.

The second "super" show I'm reviewing is titled *Platoon of Power Squadron (PoPS)*, which has completed six episodes, each running for about thirty minutes. *PoPS* has quite the cult following, and the seventh episode of this incredibly well written show was released this past Sunday. *PoPS* traces the shenanigans of four individuals, Jonas, Virginia, Donald, and Sebastian, who share an apartment and all have unique superpowers. Though all of them are aware of their incredible abilities, only Donald (played by Craig Benzine aka Wheezy Waiter), who can conjure lightning from his fingertips, is eager to explore them and use them to help people. Jonas, who can read minds and control people's thoughts, prefers to not use them at all, presumably because of dark past experiences with them. Virginia has the power (or "skill" as she would like to call it) to stop time and teleport, but is focused on finding a way to get rid of her powers altogether. Sebastian can make multiples of herself but ends up with the cloning blues, with her duplicates rebelling and taking on identities of their own. *PoPS'* storyline progresses slowly for a web series, but has great character arcs and development. It also has an engaging, suspenseful soundtrack that goes amazingly with the smooth panning shots and time-stop scenes. *PoPS* is the perfect example of an indie project: the script, videography, VFX, soundtrack and all other aspects of the production are done by a small group of dedicated people, and the hard work that goes in clearly shows in the quality of the episodes.

The final web series for this issue (which is the LAST ISSUE guys! I know, I'm sad too) is a wacky cartoon show titled *Bravest Warriors*, that airs on the YouTube channel "Cartoon Hangover." *Bravest Warriors* was created by the same man responsible for *Adventure Time* existing in this world, Pendleton Ward. It follows four space-travelling teenagers, Chris, Beth, Danny and Wallow as they travel the universe helping prevent the destruc-

tion of alien civilizations. While this is a cartoon show, it is by no means for kids, as adult themes and sexual innuendo is thrown around quite a bit. The four heroes battle evil with their emotions, in addition to using their pimped out spacesuits. The crazy storyline and strange characters are what make this show. An Emotion Lord (who claims to be Chris from the future) appears often, and ends up giving more trouble than help through his powerful abilities. Smaller characters like Catbug and Impossibear have their own fan following, especially Catbug because of his adorable cuteness. Unanswered questions

about Chris' future and the disappearance of the gang's parents (who had their own hero squad, the "Courageous Battlers") will keep you engaged.

And so we come to the end of this issue's review. But isn't this the last issue of the term? Yes, yes it is! So is *TitT* still going to be a thing in the fall? I don't know, guys! I've had a blast writing this column, and it's helped me justify my unhealthy consumption of YouTube videos, but I might take a break for a while and write about other stuff. I know this is harsh news for you all to take in, but trust me: I'll be back. Until then, Stay Tubed and DFTBA!

Despicable Bananas



JOSHUA KALPIN
2B SOFTWARE

THE SHORT SHORT REVIEW

Hello readers and welcome to the last edition of the Short Short Review of the term! This will also be the last edition for a little bit as I'm putting the column on hiatus for the upcoming co-op term. But just as a refresher, in this column, I attempt to review a short film or story in a really short number of words. This week, in honour of *Despicable Me 2*, I'll be reviewing the *Despicable Me* short film *Banana* in 312 words.

Banana features *Despicable Me's* adorable yellow creatures, the minions. This film features one minion who is working on something and then decides to have a banana for a snack. It turns out that bananas seem to be a highly prized object to minions and chaos ensues. The story is funny, especially to someone who has seen the original *Despicable Me* film. There is virtually no dialogue outside of "banana" and another word right at the end, but it takes away nothing from the story.

The animation is up the usual standards

for Dreamworks films, with bright, colourful environments, and the minions really stand out as adorable yet mischievous looking. The banana also looks quite delicious and it is understandable why a hungry minion would be chasing after it.

Moving onto sound, the film does a stellar job of combing both sound effects and soundtrack to produce a great overall sound. The soundtrack is fitting of the whimsical mood of the film and the sound effects really show off the emotions of the minions.

Overall, *Banana* is a hilarious short film featuring the lovable minions from *Despicable Me*. If you like the films or just want some entertainment it is definitely worth the watch. I'm going to give it four minions and a banana. That's it for now, stay tuned for the return of the column in the future!



Universal Pictures

xkcd 693 — Children's Fantasy



A young person goes through a portal into a mysterious fantasy world. They have some adventures, they save the world, they fall in love, and then it is time to go home.

It is sometimes very difficult for some of these heroes to go home after their experiences. To return to death, taxes, and public transit! To never swing a sword again, or never experience indoor plumbing, Reeses Pieces, or whatever wonder is not to be found in your own home! To be torn between obligations! To be or not to be in this alternate universe, t'is the question!

Here's five movies about people with varying degrees of reluctance about going home.

The Chronicles of Narnia: Prince Caspian (2008)

After having spent decades as the rulers of Narnia following the events of *The Lion, the Witch, and the Wardrobe*, the Pevensies (William Moseley, Anna Popplewell, Skander Keynes, and Georgie Henley) are none too thrilled to be stuck in WWII-Britain amongst their comparatively immature peers. So they would be glad to return to Narnia to solve a succession crisis a millennia after their apparent departure, after everyone they knew has died, right? Right?

See, when you're in Narnia no time passes in the "real" world. But in the "real" world, any amount of time can pass in Narnia. And the nightmare of having half your world lost like that really taints the wholesomeness that *Prince Caspian* tries to evoke. Evil despot of an uncle? Dwarves? Who cares? EVERYONE THEY LOVE IS

DEADDDDDDD

If you can ignore that, well Prince Caspian's (Ben Barnes) whole rise to power is only a backdrop to the issue of Aslan. Is your tolerance of CS Lewis's Christian allegory higher than average? Or do questions of faith-as-Lion-voiced-by-Liam-Neeson bore you?

For the record, I am fond of both *The Lion, the Witch, and the Wardrobe* and *Prince Caspian*. The layers of complexity added by irregular temporal flow between alternate universes and Jesus metaphors were welcome – otherwise the struggles of Prince Caspian would have been dreadfully straightforward and far too cheerful.

Timeline (2003)

A team of archaeologists (Frances O'Connor, Ethan Embry, Rossif Sutherland, and Gerard Butler) is excavating a village in France that was destroyed during the Hundred Years War. Their employer is ITC Corporation, which dabbles in time travel and fatality cover-ups. However, their dig unveils a plea for help from their absentee head archaeologist (Billy Connolly) written on a 600 year old piece of parchment. Thus, the archeologists travel back in time to try and rescue him without changing the course of history.

This movie hits a lot of my buttons. I like temporal paradoxes, revenge conducted by disgruntled employees, and the idea that your DNA disintegrates if you time travel too much. I also like movies set before the 1700s that aren't about famous historical figures, so as long as filmmakers retain an Americentric view on history then there isn't much to choose from. Thus I was able to ignore and embrace minor plot conundrums like "This is not a sustainable business strategy" and "Sending seven people to rescue one old dude is a decision made with poor risk assessment" and "Welp of course they have to fall in love."

Stardust (2007)

Poor Tristan Thorne (Charlie Cox) of the village of Wall is besotted by a spoiled local girl (Sienna Miller) who demands that he bring him a fallen star in return for her hand in marriage. But when he treks to the crater, he finds that star takes the form of a woman, Yvaine (Claire Danes). Tristan is undeterred, chains Yvaine, and they begin walking back to Wall. It's not that easy, due to the Stormhold succession crisis, and witch (Michelle Pfeiffer) hunting Yvaine so she can eat her heart and regain eternal youth. In the words of the late great Roger Ebert, "Tristan's quest to win Victoria's heart is upstaged by everybody else's quest to eat Yvaine's."

Stardust is so frickin sweet and quirky. It reminds me of *The Princess Bride* – in some ways better, in some ways worse. *Stardust* has more distinct entities with competing motivations, but is also less burdened by traditional plot sequences, or its own cleverness. Yvaine is not a useless maiden like Princess Buttercup. But *The Princess Bride* has more memorable characters (except that wet blanket of a princess). *The Princess Bride* is less dependent on deus ex machine. Perhaps the internet is to blame here, but I think I prefer *Stardust* because it feels so much fresher – not only the content, but the atmosphere. When watching this movie I felt like I was walking through a dewy moonlit forest.

I also want to run my fingers through Tristan Thorne's luscious hair, but that's irrelevant.

Enchanted (2007)

Giselle (Amy Adams) is a princess of the animated land of Andalasia. As befits her rank, she sings, she dances, and she frolics through meadows with her talking animal friends while awaiting her marriage to Prince Edward (James Marsden). Narissa (Susan Sarandon), her future mother in law, is a murderous

queen who would like her son's attention all to herself, so she tricks Giselle into falling down a portal into the streets of live-action New York, selected by Narissa as she deems it to be the place farthest from the boundless joy and laughter of Andalasia. Her optimism is very much out of place in the Big Apple, but it is infectious. I think this movie might be a parody but it's hard to tell because of how much it cares about obtaining happy endings for the deserving characters.

Any enjoyment of this movie must begin with whole-hearted acceptance of the charms of Amy Adams. It's not hard because she's delightful in the ways that she warps reality with her light-up smile. You'd have to be more coldhearted than a New York divorce lawyer not to smile just a little at her search for home and true love.

E.T. (1982)

E.T. the extraterrestrial crash is stranded on Earth when his brethren flee the Men in Black. Despite his frightening, football-shaped head and wrinkly appearance, he befriends a local boy named Elliott (Henry Thomas), and implores his assistance in building a device to "phone home" using a Speak & Spell. But the meddling adults keep hunting the homesick alien and E.T.'s health declines, making it clear that E.T. needs to go home.

Oh, Mr. Spielberg. Other directors use things like Amy Adams, fancy wigs, or teenage lurve triangles to win our hearts and make us cry. But to do it with a scary looking puppet and a potentially annoying child actor? Good job. To make us empathize with alien and child alike, through Halloween, the experience adult oversight, and poor driving skills? And to tell the entire story through the eyes of aforementioned alien and child? Genius. Awarding you the U.N. Peace Medal for that might have been overkill, though.



Walt Disney Pictures



scenicreflections.com



fanart.tv



Walt Disney Pictures



Universal Pictures

Left to right; *The Chronicles of Narnia: Prince Caspian*, *Timeline*, *Stardust*, *Enchanted* and *E.T. the Extra-Terrestrial*

The Baron's Wildberry Lemonade



Dearest loyal reader(s),

It has come time to write our final article of this term, and that can only mean one thing: drink whatever we have in the fridge. Fortunately, we have a wide array of random alcoholic beverages that we will be enjoying in rapid succession. So hold on to your proverbial hats, because this one's going to be a whirlwind adventure, not some piddly boy scout camp.

Our first drink: *Red Baron*. It's the beer that you can get in POETS on Fridays. Brewed by the good folks at the Brick Brewery in Waterloo, it's absolutely average for a beer, and since beer is good, that makes it good. But not really. Derek thinks that it has a light taste of burnt hair, but oh well. Average = 2.50000 / 5.00000 Surly Bartenders.

Next up, we have Seagram's *Classic Lemonade*. It's also made by Brick, but it's named in honour of the historic Seagram Company. In 1857, a distillery was founded in Waterloo, Ontario. Joseph E. Seagram became a partner in 1869 and sole owner in 1883, and the company became known as Joseph E. Seagram & Sons. This stuff tastes like lemonade but apparently has alcohol in it. We looked hard for the alcohol, but couldn't find it. That is, until it snuck up on us and got us drunk with its 5% alcohol. Damn sneaky alcohol. Perfect booze for people who don't like booze. 3.234 / 5 Surly Bartenders, but your friends can call you a sissy for drinking it.

Moving on, let's try Seagram's *Original Wildberry*. This continues the trend of alcohol that doesn't taste like alcohol. According to the can, it is precisely "100% Refreshing." It tastes like berry soda. It's sweet, doesn't taste like liquor, and goes down smoother than a porn star's lower back, but we like the lemonade better. 3.123 / 5 Surly Bartenders.

Alright, now for a special treat: the Brick *Wildberry Turbo*! This is a drink we just invented, so it's going to be great. It's important that you get the ratios just right: 1 part Seagram's *Original Wildberry* to 1 part *Red Baron*. This stuff tastes like fruity beer, without lowering the alcohol content. It's very tasty, and we've decided to call it "Poor Man's Fruli." Graeme says he would drink a whole tankard of it and still want more. 3.nine / 5 Surly Bartenders.

At this point we just drank the Turbo until we ran out of the *Original Wildberry*.

So far, we've been drinking exclusively Brick beers, coolers, and a combination of beers and coolers. Now, it's wine time (again)! In case you missed it, we did a whole article on wine (Drink Wine, [redacted] [redacted]). Well, we're bringing the [redacting] wine back out for our last article. Since then, Derek and Graeme took Wine 101 with Bill from Kickoff (ie. the Surly Bartender). This would have made them experts on wine, but unfortunately they got too drunk and

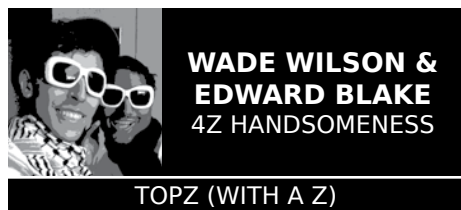
can't remember the details.

We're reviewing the Red, Whites, and Brews Amarone. We ran out of wine glasses, so we're using mugs. We ran out of mugs, so Eric is drinking wine out of a BOAT Racing glass. Classy. Derek pours the wine through an aerator. This device adds air to the wine to make it taste better. It also sounds like this: "kshshshshshshshshshsh". We tried pairing the wine with some foods, but it didn't go well with chips and salsa, or a fritter from the C&D. At that point, we ran out of food. The Amarone is a solid, cheap, brew-your-own wine and gets 4.173 / 5 Surly Bartenders. [Redacted].

At this point, Graeme exclaimed "I'm responsible! I'm not leaving wine open!" That meant we had to drink the whole bottle.

Well, it's come time to call it a night, and a term. In the unlikely event that you actually read this article, congratulations; you have nothing good to do with your time. In our next series, we will make a fake cannon, and find a way to drink from it (that's kind of our thing).

Top Ways to a Better You



**WADE WILSON &
EDWARD BLAKE**
4Z HANDSOMENESS

TOPZ (WITH A Z)

Self-improvement is like sex: constantly sought-after, unpleasant, leaves you in tears, but most importantly, it sells. This is why we're jumping on the bandwagon and teaching you how to be less of a disappointment to your older brother Sean! Most people only realize how much they hate themselves around middle-age, but we're here to tell you that you should be disappointed in the direction and futility of your life today! But how do you make yourself better? That's easy, ya dingus! You make people around you think that you're cool and happy. After all, your peers are constantly thinking about you, judging your every word, move, and tweet (in fact, they're probably judging you right now for reading a trash rag like *The Iron Warrior*... loser). So if you're interested in being as cool and handsome as two men in tight shirts and wavy hair, read on you pathetic loser, read on.

Treat Your Body like a Temple

Entertain frequent visitors, burn smoke (#420blunts) and sacrifice fatty animals into it. The first thing that people see when they meet you is your body: and if you aren't lumpin' fresh they won't be jealous of you and therefore you will be the jealous Julie eating jelly doughnuts all by herself again. All the greats will tell you how much they focus on a healthy diet, meditation, and sacrifice. This is great advice: it simultaneously makes people think you're awesome and sets your competitors on a path to loserdom. All that's important is that you look good in t-shirts, so if you want to start sextin' make

like a Texan: stockpile the guns. Spend all of your efforts on working out your arms. If you want to be an Obama and get your guns the loser way, you can toil away with this Jim dork everyone talks about (#JTL). But if you want to get guns like a winner, the secret is science: synthol is a short cut to instant awesome. We'd say more but perhaps it's best to let synthol images speak for themselves: you're one image search away from jealousy, one Amazon search away from being fresh to death, and one injection away from acquiring sclerosing lipogranuloma to death.

Enjoy the Finer Things in Life

Synthol isn't the only alcoholic lesson in our little school for cool: ethanol is another alcoholic lesson in our little school for cool. Everything worth liking is only worth liking if most people dislike it. That way, you can act cool for having a refined pallet. Some examples include dry wine, pungent cheese, and sadism. Of course, it isn't enough to like something and keep it to yourself; what would be the point? No, what's critical is that you let everyone know how much you like these things even if you don't. Because, while it takes a while to acquire a taste for the bitter and moldy, the sweetness of showing off your sophistication is as easy to swallow as semen, especially if you squeeze your thumb (#pornstartricks #shitfarzitaughtus). The easiest way to do this is to spam pictures on Facebook and Twitter with nonchalant comments like "just another dinner."

Be Progressive

Social media has often been criticized as a platform for young people to isolate themselves from their peers, but we believe that it is a powerful tool for reaching unprecedented masses with rally-calls to overthrow dictators and

140-character messages that show people how progressive you are. Over the years, numerous social injustices from child-soldiers in Uganda to marriage inequality to racial profiling have been squashed by self-righteous status updates and profile-pic-pontification. What's important is that you know the right opinions to let people know you're an individual free-thinker, just like your peers. These include, but are not limited to, spreading the good news that you think people are idiots for believing in god, calling out America on literally being Nazi Germany, espousing your informed expert opinion on verdicts whose legal proceedings you didn't bother following, talking about how much you hate Justin Bieber, and birthday wishes. Also, it is imperative that you hop on every bandwagon, as it will also help with your exercise.

Hate Pop Culture

Pop culture can be reasonably described as ideas and creative works which brings together people separated by miles, decades, and glory holes (#shitfarzitaughtus). This is why it is essential that you hate pop culture, to establish that you are above these people: you are cultured, sans pop. Of course, establishing your culture cred can take a while. Difficult: finding sincere personal interests, such as music which really resonates with you. Easy: hating on J-Biebs. After all, there is nothing more detestable than categorically subscribing to music, television, and movies just because it has been vetted by hoi polloi. This lack of critical, independent thinking is so vile, that we recommend doing the exact opposite by categorically hating such things. The exception, of course, is things which masses embraced decades before you were born. Feel free to rave about Casablanca, Citizen Kane, and Gone With the Wind: no interest is more independent

than that in the most successful films in box office history.

Hate People

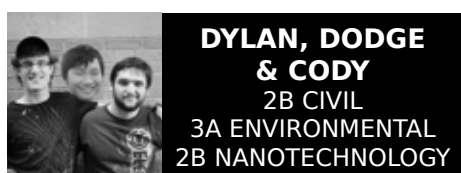
Hating things may make you cool, but you shouldn't settle for anything less than being ice cold. The easiest way to rise above people is to throw them down to the dirt, such that they might be your stepping stones to being way more fresher than your current disgusting, useless self. It is infinitely easier to criticize and belittle other people's beliefs than to try and develop some of your own. Cynicism is a faster short-cut to appearing more intelligent than you are than a British accent (we're looking at you, BBC's *Sherlock*. Seriously, Irene Adler's password seemed like they ripped the idea off of YA fan fiction). If you always assert to believe in nothing and hate all those around you, you can never be taken down a peg because you will already be sitting smugly on the bottom rung.

Hate Everything

This point should really be self-evident, you pleb.

The great Oscar Wilde once said that everything in the world is about sex, except for sex itself (sex being about power). Similarly, while many of the undertakings of youth are in the name of improving one's self, the actual drive of self-improvement is really not about making yourself better than you were: it's about making yourself superior to those around you. So take our advice and don't waste your time trying to improve yourself, because that's hard and hard things are a pain the ass (#shitfarzitaughtus). No, what's much less effortful is thinking less of your peers and making pithy, passive-aggressive displays of physical, intellectual, and social dominance. It's far easier to stand atop a high island than a mountain.

You Mad Bro??



**DYLAN, DODGE
& CODY**
2B CIVIL
3A ENVIRONMENTAL
2B NANOTECHNOLOGY

Have you ever felt so frustrated that you just about picked up your TV and hurled it out the window? Ever screamed at the character on screen for so long, that you've gone red in the face? No? Well then you haven't played any of the games our collective is tackling this week.

First off, all we can say is play *Ghosts 'n Goblins* on the NES. I don't think I have ever seen a main character die as many times. Not only does this game contain ghosts and goblins, but it also has ogres, crows, fairies, zombies, and plants that are more-than-vaguely reminiscent of the fire shooting plants from Mario. This game is possibly the most frustrating game ever.

Let's take a quick walk through the average experience of a play-through. "Okay, I cleared the river, but there are crows flying at me literally every 10 seconds! Why are ogres pooping on me?! What did I ever do to them?! They are literally pooping. Onto my head!! Are you KIDDING me?? What is WRONG with this game?!" Then their magic breaks your armor. And you die. You die A LOT!!

Final count: 19 deaths for Dylan, 15 for Dodge, 46 for Cody, and the glitchy AI is about 250. We gave up pretty fast. That's how bad it is: a total of about 80 deaths, and we played for pretty much an hour. We look like noobs trying to play *Call of Duty*. By the way, when did pwn stop being cool? Alright, time for trivia. What do *Star*

Wars and *The Lion King* have in common? Did you guess that both have characters voiced for James Earl Jones? If so, you would be WRONG!! It's actually that Simba's real father is a Wookiee. Moving on.

In case that paragraph didn't give it away, we're now onto *The Lion King* on the SNES, and while the voice acting and music sound amazing, I swear that "I Just Can't Wait to be King" is going to be the elevator music in my own personal hell. This is because it accompanies one of the most annoying levels any of us have ever experienced in a video game, where swinging from hippo tails and riding around on ostriches requires an absurd amount of skill. Let's face it, if you were riding around on an ostrich, you'd probably be pretty pathetic as well. We still haven't even grown up yet; little Simba can take down a hyena, but he can't ride an ostrich to save his life.

So far every game we've played qualifies as being "Nintendo hard". Defined by Urban Dictionary as being "As difficult as a typical game for the original Nintendo Entertainment System," most games designed for the earlier systems were made intentionally hard to make them last longer due to limited space. In all seriousness, we can't get past the second level. Everyone's manhood is at stake here.

Nananananaaaaa! Time for *Guitar Hero*! Manhood has been restored! For those of you who haven't played, in this game you play a plastic guitar and pretend to be a rock star, despite only having five buttons and a strummer. It's crazy fun though, and you should try it if you get

the chance. This is a major break from the classic SNES and NES games, and trust us, it is a very nice break!

After *Guitar Hero*, we returned to *Ghosts 'n Goblins*. Why we returned, none of us know, but it was probably due to the knight. The knight endlessly dies, and just keeps coming back; maybe we picked up on a little bit of his persistence? But in all honesty, we really weren't paying attention this time around. The Steam flash sale rolled over, and we were kind of staring at the screen for minutes. That sale is addicting; if you don't know what a Steam sale is, count yourself lucky. Valve (the makers of Steam) essentially drop the price on everything, and all of a sudden your wallet is empty! For those who are immersed in the sale as well, we feel your pain.

Back to *Ghosts 'n Goblins* though. This play-through, we got stuck with the worst weapon ever, fireballs. You'd think that balls of fire would be amazing, but they really kind of suck. Mario waaaay overdid them. You can only have two on screen at a time, which kind of sucks when there's more than two enemies on screen at one time.

So we would spoil the plot for all of you, but we really can't. We didn't make it past the second level. If you know anyone who has, please forward them to us. We need to learn! Old school NES is way too ridiculous for any sane human. For those of you who are good at it, we salute you with our boxy controllers.

While Cody and Dylan were considering the games themselves, Dodge was busy pondering life:

Have you ever wondered what it would be like to be a character in a video game? More specifically, what is it like to die in a game? In the stories of games such as *Dead Space*, *Halo*, and *Mass Effect*, the protagonist is given such an important task, that when you die in the game, even though you know that you will get a another chance, what if you didn't? What if that was it and you messed up? Then what happens? The spaceship full of deadly aliens will reach earth and annihilate every living thing, after the last hero of the planet earth jumps into a gorge. Which means it's all over. What do you do then? More importantly, what do you FEEL then? Maybe it's just me, but whenever I fail in a game, especially in a stupid way (falling off a cliff, throwing grenades around purposefully), I just feel bad that I messed up. I was the one hope, I was the chosen one, and I let everyone down: Issac will never find his girlfriend because he stomped on a barrel and blew him to pieces, Master Chief dies by driving a banshee into a cliff over and over, Commander Shepherd hit an asteroid. This can go on and on. It grinds my gears a little. I'm guessing it's a great job on the developer's part, with an excellent amount of immersion, but sometimes, it's too much.

I want to feel accomplished while playing these games, but when you die stupidly, you feel down, you feel humiliated, you feel ashamed as the little spirit that controlled their brain. But on the other hand, when you are killed legitimately, you are fueled: "damn mothalova, I'm gonna demolish you next time."

The Iron Crossword

The End is Nigh

STUART LINLEY
3T NANOTECHNOLOGY

1	2	3	4		5	6	7	8	9		10	11	12	13
14					15						16			
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			52		53	54	55					56	57	58
59	60	61			62						63			
64					65						66			
67					68						69			

DOWN

- 1 Hare-like
- 2 Book after Judges
- 3 The E in 'H.O.M.E.S.'
- 4 First
- 5 Sully
- 6 Change in
- 7 Too bad
- 8 Catcher
- 9 Augury giver
- 10 First Canadian female doctor
- 11 Likes cocks
- 12 Unagi
- 13 Either
- 21 Concentration disorder
- 22 Shallow reef
- 25 Shipping passage
- 26 Rustle, as hair
- 27 Irish dog
- 28 Most death-like
- 29 Bodily manifestation
- 30 Face
- 31 High-school functions
- 32 Core material
- 33 Groening or Damon
- 36 Took to court
- 37 Vet's trouble
- 40 Rude
- 41 Essay opening quote
- 47 Compass dir.
- 49 Stalks
- 50 Long leg
- 51 Sailing
- 53 It's 'made' in Holland
- 54 Better than bot B
- 55 Modern Persia
- 56 She, to Yvonne
- 57 Yule
- 58 Like zombies
- 59 Admiral (abbr.)
- 60 Taro dish
- 61 ...----

ACROSS

- 1 Costless
- 5 Actress Amy
- 10 Soap base
- 14 Radiance
- 15 Misrepresent
- 16 High-schooler
- 17 Crazy go with
- 18 Winged ant
- 19 Single
- 20 Last thing that pushes one over the edge?
- 23 Thought
- 24 Tries
- 28 Drivable
- 31 It's a stretch?
- 34 Digit
- 35 Budget rival
- 36 Whorl
- 38 Depression
- 39 Final final?
- 42 Greek 'H'
- 43 Indignation
- 44 Foundation support
- 45 Droop
- 46 Sums
- 47 Saltpeter, for example
- 48 Braid
- 50 Crooned
- 52 Finals week?
- 59 Altar area
- 62 Everybody Loves Raymond actress Roberts
- 63 Burn soother
- 64 1993 video game hit
- 65 ____ of Two Cities
- 66 Not-guilty
- 67 ____ Murder (2006 AFI song)
- 68 Type of ray
- 69 Had, as power

Solutions for previous crosswords can be found on *The Iron Warrior's* website at iwarrior.uwaterloo.ca/distractions.

Sudoku

#2013-10

FARZI YUSUFALI
3T NANOTECHNOLOGY

Easy

			3		9			
	1		6		8	5		
		7	4	2			6	3
	6		8					
3		5		1		7		8
					2		5	
6	7			8	5	4		
		8	7		9		1	
		9		4				

Medium

	8	5		6	4			
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8		3	6					5
5		1				8		9
2				8	3			4
				7			4	
9					3		5	
			2	9		1	3	

Hard

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	7							
6	9		1	8				
	4	2		3		6		5
		6				4		
5		8		7		2	1	
				1	6		4	8
							5	
		7		4	2	9		

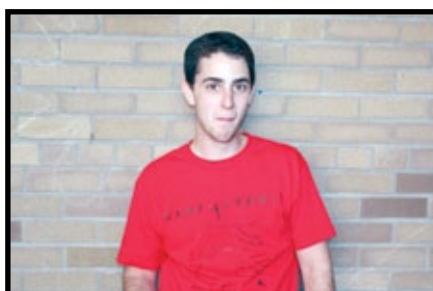
Frosh Week Issue Deadline:
Tuesday, August 20 at 6:00 p.m.
Send your submissions to:
iwarrior@uwaterloo.ca

THE IRON INQUISITION
Spenser Good, 3A Mechanical

"What is the one food you would bring to a food fight?"



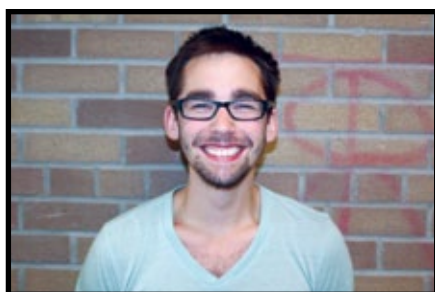
"Spaghetti and meatballs."
Meika Hayles, 4A Civil



"Watermelon. It would bring the destruction"
David Birnbaum, 2B Civil



"Cooked porcupine."
Gabriel Moreno-Bautista, 5A Nanotechnology



"Knuckle Sandwich."
Kevin Kobrinski, 1B Geological



"BABIES and rotten dead dinosaurs."
Taylor Lindblad & May Beaugard,
1B Mechatronics



"Lobster claws."
Zored Ahmed, 3A Computer