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THE IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

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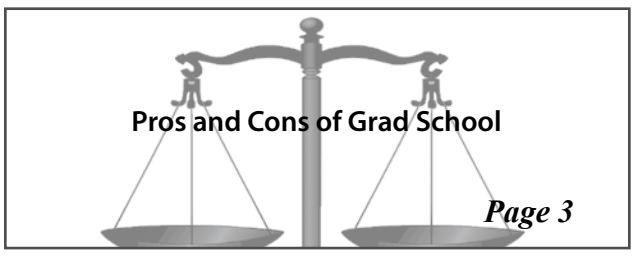

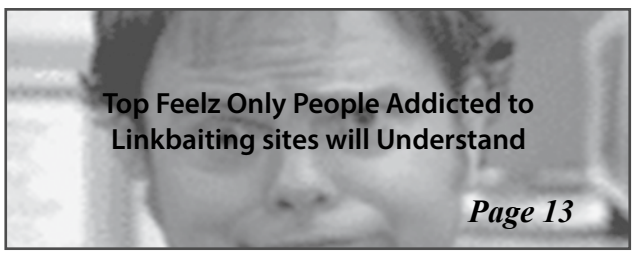

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More Woes for Blackberry

CEO Heins Ousted as part of $1 Billion Investment Deal

VINCENT MAGAS
2A MANAGEMENT

Justin Sullivan/Getty Images

Blackberry CEO Thorsten Heins has stepped down, making way for Interim CEO John Chen.

Hope, change, and the return to glory: these are just some of the things that many once believed Thorsten Heins was capable of. As time passed and the situation only got worse, the struggle finally ended. Thorsten Heins, the man thought to be capable of changing the fate of the Canadian smartphone maker once known as Research in Motion was recently ousted. Blackberry announced that Thorsten Heins has stepped down as CEO. This change in management has been part a $1 billion investment deal with Fairfax Financial Holdings, who initially wished to purchase the company back in September.

Heins originally joined Blackberry (then Research in Motion) back in 2007. He assumed different roles throughout the company, notably first as senior vice president of the Blackberry Handheld Business Unit. He also acted as Chief Operating Officer of Product Engineering, and as a Chief Operating Officer of Product Sales from 2011 until he assumed his role as a CEO. It was in January 2012 when he was announced to succeed the BlackBerry company founders Jim Balsillie and Mike Lazaridis stepped down from their roles as co-CEOs.

In a final struggle to save BlackBerry, Heins pushed the company in numerous ways in the 22 months he worked as CEO. BlackBerry undeniably saw numerous painful job cuts, severing many employees from all over the country. One recent closure saw the loss of 315 jobs when BlackBerry's office in Bedford, Nova Scotia was shut down. Heins also oversaw the release of the new Blackberry 10 operating system and their respective flagship devices the Z10 and the Q10. The failure of both devices to grab hold of the consumer and enterprise market was another major hit to BlackBerry's financial situation. Pressure built up very quickly as the tides of the smartphone market continued to swallow up BlackBerry under the Heins' supervision. Heins also oversaw the deal with Fairfax Financial to buy out BlackBerry. This deal however, was dropped when Fairfax Financials abandoned the proposal, ultimately this caused BlackBerry stocks to drop to $6.60 shortly afterwards.

It has been announced that Heins may be receiving as much as $22 million from his compensation package. It has been reported that Heins may get his current base salary of $3 million for 24 months, and benefits. There is also nearly $5 million which is payable in either cash or as restricted stock units (RSUs) for Heins that vest immediately. These stock options and RSUs will continue to vest for the next 24 months as well. It is highly possible that Heins can profit if BlackBerry's share prices recover in the future. Overall, this originally stood to be nearly $56 million if he was

Continued on BLACKBERRY on Page 8

What Went Down at the FEDS General Meeting

NINA FENG
2B ENVIRONMENTAL

This year's Feds annual general meeting (AGM) took place on October 28, during which there were a number of interesting items on the agenda. Among them was a potential Feds fee decrease and the election of three new members to the Feds Board of Directors. Most notable of all, however, turned out to be the referendum motion for the Waterloo Public Interest Research Group's (WPIRG) student fee, proposed by Sacha Forstner. If you weren't there, here's a little recap of the discussions, decisions, and drama.

The first item on the list (after agenda and minute approval) was the election of the director seats. Eleven candidates of various faculties and skill sets ran for the three open seats. They were given the opportunity to make 2-min. speeches (shortened from the original 10 min.), followed by a question period. Most questions served to clarify their duties, plans, and the Board's decision-making process in general. The WPIRG motion was also brought up at this point, due to the apparently large interest in the subject of the majority of attendees. Two of the candidates hailed from the Faculty of Engineering, and one of them, Lisa Belbeck, scored a directorship. The other two positions went to Maaz Yasin and Danielle Burt.

Addressed secondly was the controversial WPIRG referendum motion. Originally next to last on the agenda, it was motioned to an earlier spot to suit the WPIRG-supporter-dominated attending body. WPIRG is a non-profit organization dedicated to involving students in environmental and social justice issues. Currently, every student pays a $4.75 fee to the group every academic term, and it was proposed that a referendum determined by the Students' Council would be held to determine the necessity of such a fee. It was alleged that the group had little on-campus student involvement and little transparency. Supporters of WPIRG (and therefore protesters of the motion) turned up in large numbers to in order to strike it down. Members of Engineers Without Borders, the Muslim Students' Association, Students for Justice in Pakistan, Conrad Grebel Peace Society, UW BASE, and other groups affiliated to WPIRG were amidst them. Sacha Forstner began the talk by humbly backtracking and apologizing for some of the statements, admitting that WPIRG's importance to the student body was previously underestimated given the turnout. However, he still maintained that a referendum should be held out of responsibility to the students, stating that any organization should, from time to time, be called to justify their funding even if only to validate them further. The ensuing debate explored various aspects of the issue, such as the power of the Students' Council over the organizations fee allocation and referendum wording, and the legality of the referendum itself. Ultimately, the referendum motion was defeated, to the joy of most attendees.

The following items involved approving the Auditor's Report, reviewing the year's financial statement,

Continued on FEDS on Page 8

Letter From the Editor

ALEXANDER LEE
EDITOR-IN-CHIEF

Hello again, readers!

The term passes by so quickly. We're already on the penultimate issue of The Iron Warrior this term! Many thanks to everyone who contributed articles to this issue. I'd like to recommend in particular Amer Abu-Khajil's article on the pros and cons of graduate studies on page 3, and Cameron Soltys's article on the increasing irrelevance of graphics and return to gameplay in indie games, on page 8. I would especially like to thank Edward Blake and Wade Wilson, who were feeling adventurous in this issue's TopZ (with a Z), doing a rather rebellious article that messes with our column spacing and includes (gasp!) QR Codes. Our last issue will be published on November 27, and includes the triannual Tin Soldier, the issue that everyone loves!

There's been a topic that's been making the rounds in the last several months both on the internet and on the fringes of financial circles. That topic is the bitcoin. The bitcoin currency was originally created in 2009 as a digital currency that did not rely on trust. Historically, all forms of currency and money relied on trust. For example a paper bill is physically worth less than a cent, it only holds value because we trust that it holds value. The markets tell us that this bill is worth this much at this time, relative to other currencies. Before, it used to be other sources that currency relied on for value. For example under the gold standard, money was defined to be worth a certain amount in gold. In ancient and medieval China, a bill was worth what it was worth because the government said so and would enforce it. The key underlying thing concept here is that people trusted that money was worth a certain amount, and that's what gave it that value.

The bitcoin tried to change that. Bitcoins are created through using computers as "miners". Thus anyone can technically "mint" bitcoins, provided they outfit their computers for the task. This would usually lead to rampant inflation as everyone would try to create the currency. However, this is not the case as the currency has predefined limits and the creation of bitcoins will slow until it hits a rate of production of virtually zero. Thus there would only be a limited amount of bitcoins in existence at any one time.

When the bitcoin first came into existence, within months people had discovered a flaw in its design that allowed people to print infinite amounts of the currency. Yeah, not a great start to an infant currency. However, it recovered from this rocky start and rose to the level of a fringe alternative currency used by conspiracy theorists and paranoid tin-foil hat wearers everywhere. Eventually, in 2011, some mainstream organizations such as Wikileaks (if such could be called a mainstream organization) began to accept bitcoin donations. In 2011, the bitcoin hit its first major spike, jumping from 30 cents to about $32, but fell back down to $2.

As knowledge of the bitcoin became more prevalent, its uniqueness caused some to consider the implications of a new "cryptocurrency," so named due its reliance on cryptography rather than trust for value. Eventually, bitcoins became public knowledge in early 2013, and these days it is used mainly by speculators as a commodity rather than a true currency. However, it is accepted by several prominent vendors such as Reddit and WordPress.

The bitcoin's price has fluctuated wildly since its introduction having reached lows of 30 cents, but at the same time has experienced spikes of over $400 for short periods of time. However, since 2013, the price of the bitcoin has risen steadily and today is worth around $325. Is this the true price of the bitcoin, or is it simply the result of speculators driving the price up? Is there even truly a difference?

The bitcoin is different from traditional currencies in several ways. I already mentioned that it is an attempt to not be based on trust, but another important note is that the bitcoin is purely a digital currency. There are no physical bitcoins out there (yet) and the majority of trading is done online. The bitcoin is certainly not the first digital currency, but it is arguably one of the more prominent ones at the moment. The bitcoin is also independent of any central authority, there is no Federal Reserve or National Bank regulating the value and amount of bitcoins in the world. Instead it self regulates . As stated earlier, the amount of bitcoins in the world tends toward an upper limit, doing this by making each successive bitcoin exponentially harder to make than the last. As production is linked to processing power, there will eventually come a point where it is near impossible to make a new bitcoin under current processing power limits. That limit is currently estimated at around 21 million.

Crucial to the bitcoin is a decentralized encoded public transaction log. A key issue with digital currencies is called double-spending. As digital currencies are digital and not physical, a user can copy the currency he spends, and he would spend one and keep the other, thus spending free money. This being such an obvious problem, all major digital currencies have ways to stop this. For the bitcoin, this is its public transaction log, known as the bitcoin protocol. It keeps track of all Bitcoin transactions made in the world, and thus ensures a bitcoin cannot be copied and spent multiple times. It is also crucial to the bitcoin's self regulation, as it keeps track of the number of created bitcoins, enabling the bitcoin to decide how much it takes to make the next ones.

So, all things considered,, the bitcoin is a rather fascinating currency with clever planning. Solutions seem to have been found for the major problems that usually plague digital currencies, like double-spending, hyper-inflation and self-regulation. However, the real question most people are asking is, is the bitcoin a viable currency? From all the things we have learned, it seems like, yes, it could be viable. However, there are still problems with it, as there are problems with any currency.

First of all, the bitcoin is not widely accepted yet. This is a problem inherent to all newfound currencies. It is hard to use something as money when the majority of places you'd want to buy things would not accept it. Traditional currencies that had the backing of countries avoided this problem, as it would be automatically accepted in every business within the nation. I cannot think of an instance where this problem has been solved yet by a nontraditional currency.

One thing preventing the bitcoin from reaching public acceptance is that it's primary usage before hitting the mainstream was as a currency on internet black markets using anonymity networks and darknets. The most notable black market that used bitcoins was Silk Road which was shut down on last month by the FBI. From this raid the FBI came into possession of 144 000 bitcoins valued at $28 million. Such large quantities of trading indicates that it is clearly favoured by the shadier side of the internet for deals, and such stigma could be hard to shake off if the bitcoin were to try to become a legitimate currency.

Another thing that might prevent widespread adoption by countries is that the countries themselves cannot regulate it. All traditional currencies tend to be linked to and regulated by at least one country. The USA uses the US dollar, China uses the RMB or Yuan, the European Union uses the Euro, etc. If a country has control over its own currency, it can regulate its value using things like interest rates and minting. Thus it can try to slow inflation during prosperous years, and try to kickstart the economy during recessions. Allowing the bitcoin to be used as currency would mean that governments would lose this control over their currencies, and the imposes a certain amount of risk.

Overall, the bitcoin is probably the digital currency closest to seeing widespread use. However, there is still a ways to go before such a thing can happen. Is it wise to invest in the bitcoin right now? Perhaps, but be aware that as it is currently most used by speculators, it is prone to sudden spikes and falls, and is hard to predict. It is possible that you may have already missed your chance. I'd wait and see.

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THE IRON WARRIOR

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

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

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Waterloo Needs Glasses-Friendly Safety Goggles

NANCY HUI
3B CIVIL

Ever since I've come to the University of Waterloo, I've never seen a pair of safety goggles that are suitable for use by people with prescription glasses. All I see are flimsy little wraparounds that barely fit around my head, never mind my glasses as well. I find this stocking practice vaguely discriminatory and mildly unsafe.

And yes, I realize that the Chem stores sell goggles that fit over my glasses, but is that really a reasonable purchase to make for someone who might be in the lab twice a term? Moreover, is it fair to require only the glasses-wearers of a class to invest in rubber optical accessories? (Hint: it's not, unless you subsidize them too)

There are not a lot of options when all you have are a box of the cheap close-fitting visor-type safety glasses. I could refuse to wear safety goggles and rely on prescription glasses for protection, but debris could still fly into my eyes from the sides and top of the glasses. I could wear the goggles over my prescription glasses, which clearly does not impede the path of flying debris from above or the side either, and is uncomfortable to boot. I could wear the glasses over the goggles, but this alters the focusing effect of the lenses and makes the floor look ten feet away. I could ditch my prescription glasses and wear the goggles alone but honestly my prescription is pretty bad and I'd probably fall over a concrete cylinder onto a similarly-coloured concrete floor at some point.

Now most laboratory exercises that undergraduate students participate in are relatively harmless, but in the off-chance that there are flying shards of concrete, should not the lab be equipped with goggles that fit students of levels of all optical abilities? Does the university want to get sued?

Chemistry Materials

uWaterloo's Safety Goggles do not adequately protect those who require glasses.

In conclusion, it is unreasonable to ask students of a class to don safety goggles when a goggle shape suitable to the needs of spectacled students is unavailable.

Graduate School

A Graduate Student's Perspective

AMER ABU-KHAJIL
MASTERS CIVIL

Whether you're still in your first year or about to head into your 4B term, you may be thinking about taking your education further by pursuing graduate studies.

I completed my undergraduate degree in Civil Engineering from UW in April 2013 and transitioned into the masters program in September. Personally, I only came to the realization that I wanted to pursue graduate school during my 4B term - I had already had a full-time job lined up with a previous co-op employer and thought I was going to soon be out in the "real world."

Regardless, here are a few pros and cons of pursuing graduate school from my point of view. These points are more catered to students considering a masters degree (MEng, MASc) but planning on returning to the work force rather than continuing in academia.

Pros

It's just like work: At the end of the day, pursuing a research-based degree is very similar to working a full-time job - think of a masters degree as career experience in academia. As one of my friends recently put it, your research supervisor is equivalent to your work supervisor, your funding sources are equivalent to your clients, and you're getting paid. Although you won't be getting paid an full-time engineer job salary as a graduate student, you should be able to make enough money to make ends meet - and continue living like a student.

Technical credibility: In general, in your full-time position, you develop and gain technical credibility as you go through your career; you gain your colleagues' respect and you become the office's or company's expert in a certain field. Graduate school allows you to fast-track your "technical credibility." Once you finish your masters degree, you are more likely to pursue a career in your area of study. At that point, you've already had ~2 years working primarily in one area: reading other people's work, identifying problems, and creating solutions. Once you join the workforce, you're already considered an expert to your colleagues - at this point all you need to do is to acclimate to the workplace and start impressing your supervisors.

Personal Satisfaction: I think an important reason to pursue graduate school is personal satisfaction. You have to have the conviction to actually want to continue spending part of your life becoming more educated. Learning new things, exploring new ideas, and developing creative solutions should all be things that intrinsically make you happy.

Cons

Time & Money: Not only will you be spending more time in school but will also be making less money than you would working a full-time job. Once you finish your undergrad, you'll feel like you're ready to take on the world and start finally earning money after paying for 5 years of school. It becomes quite difficult to see graduate school as a valid step in your career and a convincing return on investment for your future when you have to spend two years working for a humble salary.

Return on Investment: Although this may seem as a benefit of graduate school, the return on investment is not necessarily guaranteed. If you are not careful and you do not appropriately leverage your graduate studies, you may end up in a position similar to one that you could have gotten right out of undergrad. Now you may say: "even if I still start at an entry-level position, I'll move up faster in my career." But again, there are no guarantees. You have to be self-driven and self-motivated to leverage your graduate degree and make sure that you are able to market and sell yourself appropriately. Don't only rely on the graduate degree to boost your career.

You have to want to do it: Regardless of the pros and cons, each person considering graduate school has to have the conviction to want pursue graduate school. There's a personal, internal consciousness that has to be present. Otherwise, if you enter the program not entirely convinced, you may lose sight of why you are there - and that should be because you want to be there.

Point Vs. Counterpoint

Is Self-Directed Learning Effective in an Undergraduate Environment?

POINT

CAMERON SOLTYS
1A MECHANICAL

Education is an ever-evolving attempt to produce the most intelligent and adaptable pupils possible. 100 years ago, the majority of people had only the most basic of education; now, all Canadians must receive some form of schooling until they are 18. Self-directed learning is another such step in the endeavour to provide the next generation with the best education available. When applied to the right student—one with the maturity, initiative and a desire to learn—it is an incredibly advantageous method of teaching. The ability of self-directed learning to actively engage students in the learning process, give them carrier furthering-opportunities, and a challenging curriculum provides students with an unparalleled learning experience which should be available to any who desire it.

Self-directed learning means that the student is taking a very active role in what they are learning. Rather than just absorbing information from a teacher, with the expectation that it will be important for passing the course, self-directed students have the burden of teaching the information to themselves. This allows for the pupils to obtain a much deeper understanding of topics: understanding of not only how something works, but the more fundamental reason why something works as well.

This more independent form of learning also allows the student to dictate how their time will be spent; if they grasps a concept easily then they can move on to more difficult topics, not waiting until the idea has been explained multiple times for the benefit of their peers. Self-directed learning is a more effective way to learn, allowing the student to understand the material better by focusing deeply on the more troublesome topics.

Self-directed learning changes not only how a student learns, but also what they learn as well. In a self-directed learning setting the student will choose to study a subject and topic of personal interest to them. This not only increases the aforementioned engagement factor, but also makes what the student learns more applicable to their post-education life. With a class catered specifically to a student—by the student—the class will be able to reflect the student's own goals and career hopes.

This does raise the question of whether self-direct learning allows for adequately well-rounded students. After all, while it may not be directly relevant to a career in engineering, it is important to develop written and oral communication skills in English class, and to learn about history to gain some perspective on current events. And indeed there is a great risk that these topics will be neglected. There are, however, many ways to overcome this problem. One way is to mandate that students in self-directed learning programs diversify their studies. Another is to leave this to the student's discretion; as was stated above, a self-directed student requires maturity. As such, the student should be able to recognize the importance of a diverse education and be capable of choosing the courses which will benefit them most.

It may seem counterproductive to, in an essay arguing the advantages of self-directed education, to mention the "burden of [self] teaching" and the the extra challenges of choosing subjects to balance one's career and learning goals with a diverse education. It is not. The purpose of self-directed learning is not just a better learning experience, but a better education. Self-directed learning provides new challenges to its pupils, not all of them academic, and this is where it truly exceeds the traditional education system. This is what this university was founded upon—education which was not only academically rigorous, but also provided the extra challenge and rewards of applying that knowledge. Waterloo's co-op program is an exemplary instance of self-directed learning. It is a challenge above that of the academic one, but it opens up new opportunities for learning and gives participants new experiences, which prove to be more vital then what is learnt in class.

Self-directed learning is not for everyone. Success requires maturity and initiative, and an even greater amount of perseverance. But the experience it provides to those who undertake it—experience which extends beyond academic life—is incredible compared to the traditional learning environment.

COUNTERPOINT

MEAGAN CARDNO
2A NANOTECHNOLOGY

Perhaps the idea seems more than reasonable when explained to you in theory. However, like many things, implementation of the concept often falls rather short of the ideal.

Self-directed learning is broken down on Waterloo's Centre for Teaching Excellence's webpage as a four-step process—being ready to learn, setting learning goals, engaging in the learning process, and evaluating the learning. Immediately, we can recognize that this includes two more steps than what is normal for a student engaging in traditional learning environments. While every student needs to prepare for the lessons and, of course, engage in them, typically the designation of learning goals and evaluation of the learning are tasked to the course instructor, professor, or teacher. This includes the designation and development of curriculum, as well as proper testing/evaluation.

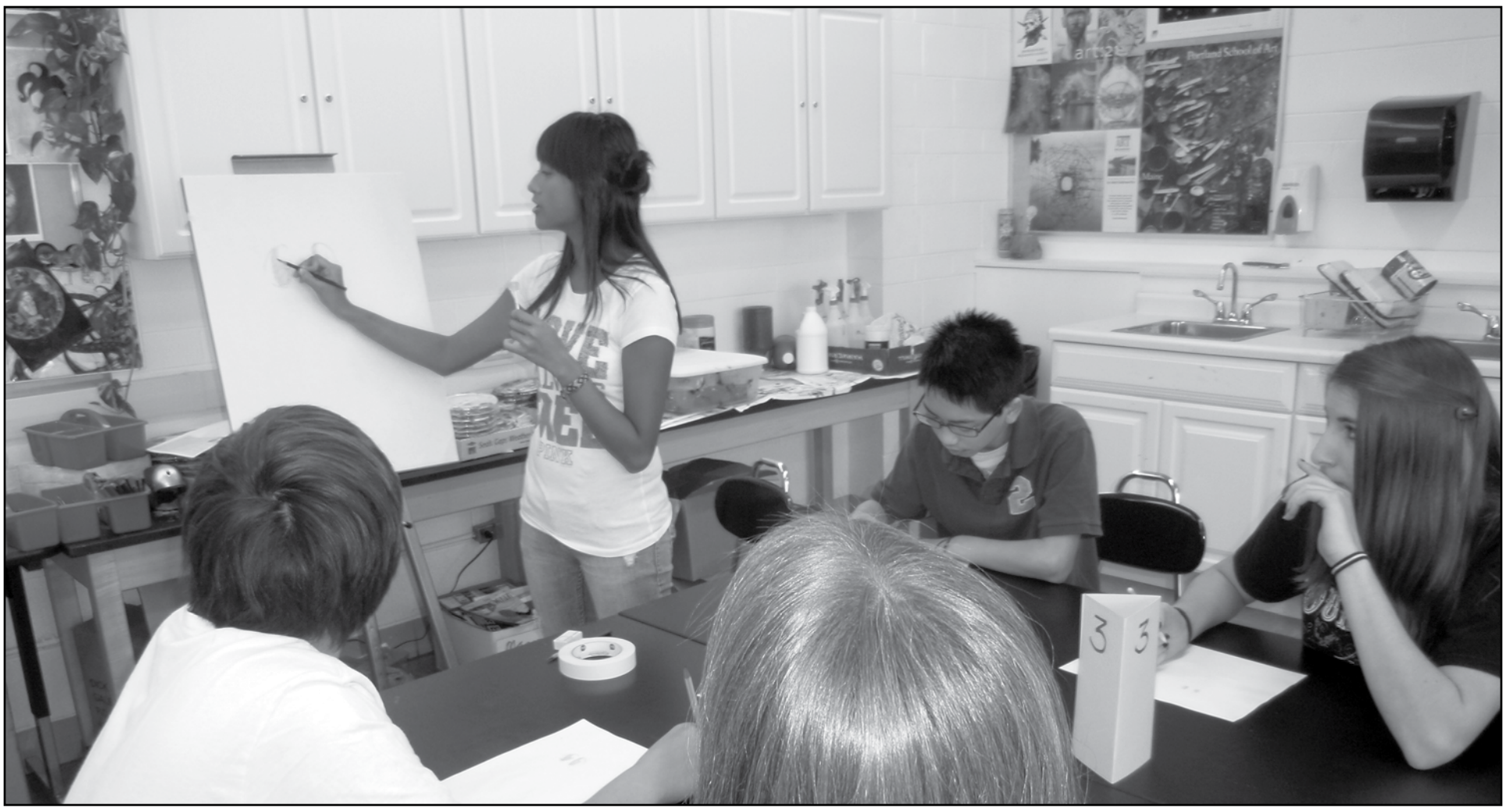
Traditionally, these steps are tasked to professors and professionals who are better versed in the realm of teaching who are more familiar with common pitfalls and important points that should be covered in a course. These are people who are knowledgeable in their field, and competent enough to know what materials need to be emphasized, what subjects are common trouble areas, and what subject matter is (typically) not useful in further studies. By tasking a student with these responsibilities it becomes far easier to make mistakes in the planning of the curriculum, such as focusing on unimportant ideas, spending too much or too little time on specific subjects, and overlooking important matters entirely.

By engaging in self-directed learning, a student effectively removes themselves from the experience and wisdom that comes with a well practiced professor or lecturer. Every student is quite painfully aware of how expensive university is, and some consider their tuition very larger as money that goes into the salaries of well-versed professors that teach, lecture, and assist along the entire learning process, not for very, very expensive and glorified babysitters.

Self-directed learning is intended to promote individuality, leadership, self-motivation and determination into its students. However, most most students develop these skills in traditional learning environments more than well enough. Ask any student who had to deal with multiple assignments, laboratories, essays or examinations scheduled in the same week— university already emphasizes the importance of time management and motivation without the added work of self-directed learning. Adding more unnecessary stressors that do not enhance the course material or assist in some subject matter is not in any way a wise decision.

The real focus of self-directed learning seems to be the development of good teaching skills, and not good learning skills. Developing a curriculum and creating evaluations are tasks that a professional educator normally tasks themselves with— and while these are not by any means useless skills, they are less applicable for students who are not intending to lecture or teach professionally. Taking time away from learning more subject matter to learn about the qualities of a good teacher can hardly be considered sound reasoning.

University learning is, at is core, a service, and its clients are the students who pay very well for the service. While seeking to improve the methods and capabilities of the 'knowledge distribution service' is an admirable goal, self-directed learning is a far cry from what is needed. If a non-traditional learning environment is needed, then the university should look into other potential solutions; classrooms and lectures with conversation-based methods, improved layouts of lecture halls, and more varied styles of lectures for each subject. Don't get stuck on one solution— try it, see if it works - and move on if it doesn't.



Grayslake Central High School

Does student-directed learning help or hinder overall progress?

Fall Reading Week?

What do You Think?

YASSER AL-KHDER
PRESIDENT

Hey everyone. Hope the term's treating you well. Don't worry if you didn't do so well on your midterms. That's what finals are for. If you did do well on your midterms, then congratulations!! You have nothing to worry about.

Last week I had a meeting with the Dean, and we ended up talking about this whole fall reading week issue. If you haven't heard, there's been talks about having a Thursday and a Friday off sometime in the middle of Fall terms, probably right before 1st year hell week. This is not just some rumor that is flying about. The Provost has asked the Dean what she thinks of having these two days off. As of now, the Dean does not want to implement it. She wants to look into it further before making a decision, and part of looking into it includes gauging the students' thoughts towards the issue, and that's where we come in.

The Dean has asked the Engineering Society to help her with getting feedback from the student body. So by the time you're reading this, a survey should be floating around (I'll have the link to the survey on the Facebook page and out on the mailing list as well) asking whether you think having two days off in the Fall term is a good idea or not. But there's a catch.

A term must have a certain number of school days to meet accreditation requirement. So these two days need to be taken from somewhere else. The current proposal has no details as to where these extra two days will be coming from. They can be two Saturdays, they can be taken from Orientation Week, they can be taken from the end of the term (although highly unlikely), or somewhere else that we haven't thought of.

So let us know what you think. Take a 5-minute break from "studying", fill out the survey, and let your friends know about this survey. Because the more results we have, the better idea the Dean will have about our thoughts, and the less likely you'll be pissed off when a decision is made (you know, assuming you responded like the majority of students).

So keep your eyes and ears open for the survey, and if you don't see it on the Facebook page or in your email, then come bother me about it until it's out.

Cheers,
Yasser.

Why Get Involved?

Reflections from VP Internal

CATHERINE DECLARO
VP INTERNAL

With my term as VP Internal coming to a close, I've been thinking a lot as to why I decided to get involved in extra curriculars in the first place. I know many people who don't get involved, and I thought this might be a good opportunity for me to share my experiences and thoughts on the matter.

Aside from being involved with the Engineering Society, I've also been involved in other areas of UWaterloo life, such as Orientation Week and FEDS clubs. Personally, I've found these experiences to be some of the most valuable experiences of my university life. Don't get me wrong, there's no feeling like holding something you've made after putting hours of blood, sweat, and tears into it, but there's something about social activities that projects and schoolwork can't replicate.

Aside from having fun, being involved allowed me to discover my passions, strengths, as well as my weaknesses. One of my realizations was that though I love music, I don't like being involved with the administrative side of it; essentially, the lesson I learned was to separate my leisure from my work. I've also improved significantly with communicating professionally, time management, and prioritization. As cheesy and over used as that sounds, it's true! Being busier and having more on my plate forced me to become better at meeting deadlines. And of course, these are all things I've been able to put on my resume and make me a more hireable and personable student.

Being involved has affected my university experience considerably. Often I'll hear complaints about a lack of spirit, or a lack of community, but your experience will be what you make it. Not to insult the people who don't put themselves out there or are nervous about starting to get involved, but if you don't at least try, you'll never know. Of course, getting involved is always a little daunting at first. It can be difficult to balance your academics with your extra curriculars, but that's something everyone goes through and takes time to develop.

I made the choice to get involved, and slowly but surely started adding more and more to my plate. Out of it, I've gotten some important life skills that just can't be taught in school (leadership, teamwork, communication, and organization), some solid friendships with people across different years and disciplines, and some truly unforgettable experiences. I know that when my time here is up, I'll have left with more than just my degree.

If you have any questions about getting involved, whether it be with the Engineering Society, Athletics, FEDS Clubs, or anything else, feel free to email me at *vpinternal.b@engsoc.uwaterloo.ca.*

IT'S MOVEMBER!!

KRISTINA LEE
VP EXTERNAL

Hello everybody! It's that time of the year again, time to don your favourite shirt and strut your stuff because you, yes you, are growing a fabulous mustache. For those of you who did know, it's Movember! The lovely Movember directors, Lisa and Steve, have been busy this past month setting up for Movember. There are donation boxes in the EngSoc Office and picture outside POETS of our Mo Reps current mustache statuses. Also happening this month is the Santa Claus Parade! If you're interested in helping out please let me know and I'll put you in touch with our director.

Congrats to those who were selected to attend the Professional Engineers Ontario Student Conference and the National Conference on Women in Engineering. We're off to PEO SC this weekend and NCWiE the following weekend so I'll be in and out a lot. These two conference look like they'll be great and I can wait to share what we learn at them with you all! Good luck to those who applied to the First Year Integration Conference and Congress. Sarah Rose is taking care of those applications.

My transition with Sarah Rose is going well. She's just learning the daily ins and outs of being exec and on the external side of things. If you ahve any questions for myself or Sarah Rose please email us at vpexternal.b@engsoc.uwaterloo.ca.

Thank you to Shari and her directors as well for running another successful Waterloo Engineering Competition. I was around Friday night and every looked great and everyone seemed to be in good spirits. Congratulations to the winning teams who will be representing Waterloo B at the Ontario Engineering Competition! Thank you to everyone who participated in this fine event, without you, we wouldn't have such an amazing WEC. Cheers.

Finals and Course Critiques!

ORYSIA SOROKA & MEGAN MCNEIL
VP EDUCATION

Hello Everyone! It seems like midterms just finished and it's time to relax, but don't be fooled! It is less than a month until classes are done for the term and final exams begin. For some of us, this might mean buckling down and maybe even starting to review class content from the beginning of the term. Also, make sure to check with your professors – some choose to write the final exam based on the entire course, and some choose to only test the second half of the course.

Also, within the next few weeks your professors will be handing out course critiques in each class. These will have questions which will focus on the quality of your instructor and the course itself. It will also have a section for you to write down comments and any sort of feedback you may have. It is important that you keep this feedback concise, to the point, and respectful so that they do not get filtered out, and so that the instructor gets to see the feedback and results from each critique. The results will be processed and viewed by the department, faculty and instructor. To see previous course critiques, go to eng.uwaterloo/critiques/ or via the course critique link which can be found on the engsoc website.

Good luck with the last half of the term and keep up the good work everyone! Orysia

Upcoming Events Calendar

Wednesday November 13	Thursday November 14	Friday November 15	Saturday November 16	Sunday November 17	Monday November 18	Tuesday November 19
ECIF Committee Meeting 5:30PM Orifice	TalEng 8:00PM Engineering Strength and Conditioning 7:30PM PAC	PEO Student Conference York University Pubcrawl #5 11AM POETS Santa Claus Parade Prep 3:00PM	PEO Student Conference Santa Claus Parade	PEO Student Conference Interfaculty Paintball 12PM Flag Raider's Paintball LAN Party 2 4:00PM RCH 207	Engineering Strength 6:30PM PAC	Charity Grilled Cheese 11:30 AM CPH foyer Genius Bowl 6:30PM
Wednesday November 20	**Thursday November 21**	**Friday November 22**	**Saturday November 23**	**Sunday November 24**	**Monday November 25**	**Tuesday November 26**
EngSoc Meeting #5 5:30 PM	EngPlay Engineering Strength and Conditioning 7:30PM PAC	EngPlay	EngPlay	EngPlay	Engineering Strength 6:30PM PAC	Charity Grilled Cheese 11:30 AM CPH foyer WEEF BOD Meeting 5:30PM E5 3101

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

Waterloo Engineering Competition!

KAMYAR GHOFRANI
2A NANOTECHNOLOGY

Last Friday, students competed in the Waterloo Engineering Competition for a spot in the Ontario Engineering Competition, which will take place in February at the University of Ontario Institute of Technology. Students competed in the three categories: Junior Design, Senior Design and Consulting. For the design portion of the competition, teams of four were assigned a challenge to complete. The junior challenge involved designing an apparatus to transport uranium packages across the Grand Canyon in four hours. Senior design competitors had six hours to build a remote controlled vehicle to traverse a track and reach high enough to be able to retrieve goods from the top of a building. The consulting competition, which lasted about five hours, looked at the potential take-over of Blackberry and what potential products or solutions would benefit the company. Teams were scored on creativity, cost effectiveness, team work and presentation. Judges were mostly professors, but including a judge from the PEO board and an engineer at Clearpath Robotics. If you missed the competition this term, the next one will be in June of 2014, so if you have three friends and love doing fun things, or perhaps just enjoy eating free food, the Waterloo Engineering competition is definitely for you.

Kamyar Ghofrani

Waterloo Engineers from varying faculties pose for a picture with the WEC judges after the competition.

techcrunch.com

About 150 Canadians went to Yale University for Y-Hack last weekend.

Waterloo at Y-hack

ANDREW YIU
2A SOFTWARE

This past weekend, I went down to Yale University with some friends for Y-Hack. Y-Hack is part of a circuit of hackathons held by colleges in Major League Hacking. Being my first hackathon, the experience was amazing. The event had near 1000 participants, around 150 of whom were Canadians.

Y-Hack was sponsored by many companies like Microsoft, Amazon, Redhat, Linux, Bloomberg, Clover and more. Many of the companies had developers on site to help all hackers with API usage and provided everyone with access to all the benefits of a developer account. If you needed help, all you had to do was go out into the hall and yell for it.

The hackathon itself lasted 24 hours and another 4 hours for dinner, demos, and prizes. Here's a tip for you if you want to do a long hackathon; SLEEP. You may be losing some hack time by sleeping, but the rest will help you perform better. In 24 hours, my team and I were able to come up with an android app, successfully integrate an API that is no longer supported, and meet a bunch of people.

This weekend I took a 10 hour bus ride from Waterloo to New Haven, Connecticut, hacked an android app for a full 24 hours, saw some really great hacks, and got tons of free swag. Would I do it again? Maybe wait a week or two. What would I do differently? I would get sleep while there. Some tips for you crazy hackers: water is your best friend--stay hydrated--and GET SLEEP.

Sponsorships and ECIF!

PETER ROBERTSON
VP FINANCE

And the most interesting news I have is ... Sponsorships have been decided! Below is a table showing what groups and teams applied for this term, and what the Sponsorship Committee decided to allocate to whom. The allocations were ratified at the EngSoc Council meeting last week and are now official. Teams and groups can start claiming their funding as soon as they would like. The process is slightly different starting this term; we now ask that anyone looking for reimbursement to fill out an EngSoc Expense Form, which is available on the website or in the Orifice, and attach proof of purchase to the form. Forms can be submitted either via email or in person in the Orifice. In the Category column please write 'Sponsorship', and in the Description column put your team or group name and what you've purchased.

Also new this term people have the ability to claim both Sponsorship and P***5 prize money on either Society. In the past funding received on one Society (either A or B) could only be reimbursed during an on-stream term of that Society, however this term we've changed the structure slightly so that reimbursement can be given on either Society. This is only for Sponsorship and P***5 reimbursement. All other directorships will still have to wait for an on-stream term to be reimbursed.

Finally, tonight the ECIF Committee is meeting to decide where to allocate the $9000 we have this term for Capital Improvements. If you would like to submit a proposal please go to www.engsoc.uwaterloo.ca/ecif and do so by 5pm today. All ideas or suggestions are encouraged!

Team / Group	Item	Requested	Allocated
Baja	Safety equipment (harness, helmets, etc)	$ 350.00	$ 350.00
	Fire extinguisher	$ 50.00	$ 50.00
	Apparel and team uniform	$ 100.00	$ 100.00
	Oil, gas, lubricants	$ 200.00	$ 200.00
	TOTAL	$ 700.00	$ 700.00
Concrete Canoe	Concrete tools (sanding, finishing, weigh scale)	$ 650.00	$ 650.00
(Concrete Toboggan)	Concrete Canoe Banner	$ 350.00	$ 350.00
	TOTAL	$ 1,000.00	$ 1,000.00
WatSat	Transceiver Pair	$ 1,300.00	$ -
	Batteries	$ 700.00	$ 700.00
	TOTAL	$ 2,000.00	$ 700.00
UWNRG	YCBO Target	$ 650.00	$ 325.00
	Soldering Iron	$ 250.00	$ -
	Photolithography Mask	$ 220.00	$ 220.00
	Crystal Magnesium Oxide Wafers	$ 384.00	$ 384.00
	TOTAL	$ 1,504.00	$ 929.00
Engineers in Medicine	Pop/Water/Plates/Napkins	$ 80.00	$ 80.00
	Pizza for events (sponsored)	$ 350.00	$ 350.00
	Honoraria for speakers	$ 200.00	$ 200.00
	Advertisement Material	$ 20.00	$ 20.00
	TOTAL	$ 650.00	$ 650.00
UWFSAE	DC Power Supply	$ 70.00	$ 70.00
	Fire extinguisher	$ 500.00	$ 500.00
	Corded Drill	$ 50.00	$ -
	Router	$ 150.00	$ -
	Kevlar Shears	$ 50.00	$ -
	Angle Grinder	$ 50.00	$ -
	Dremel Set	$ 100.00	$ -
	Socket Set	$ 200.00	$ -
	Wrench Set	$ 130.00	$ -
	Cordless Drill	$ 130.00	$ -
	Chop Saw	$ 200.00	$ -
	TOTAL	$ 1,630.00	$ 570.00
Waterloo Rocketry Team	Model Rocket Competition materials	$ 350.00	$ 350.00
	Rocket Construction materials	$ 500.00	$ -
	Recovery Equipment	$ 200.00	$ -
	Electronics	$ 300.00	$ -
	Fuel and Oxidizer	$ 200.00	$ 200.00
	Competition Fee	$ 400.00	$ 400.00
	Travel Costs	$ 500.00	$ -
	TOTAL	$ 2,450.00	$ 950.00
UWPEA (SPE)	Printer	$ 330.00	$ -
(Society of	Banner	$ 120.00	$ 120.00
Petroleum Engineers)	*Printing credit in Orifice*		$ 120.00
	TOTAL	$ 450.00	$ 240.00
Bridges to Prosperity	Portion of Material Expenses	$ 1,000.00	$ 812.50
	TOTAL	$ 1,000.00	$ 812.50
UW-IIE	Competition Fees (~$250 / person)	$ 2,000.00	$ 500.00
(Institute of Industrial Engineers)	TOTAL	$ 2,000.00	$ 500.00
UW Robotics Team	NASA Competition Fee ($3000 total)	$ 2,763.21	$ -
	IGVC Competition Fee	$ 500.00	$ 312.50
	University Rover Competition Fee	$ 250.00	$ 250.00
	IARRC Competition Fee	$ 250.00	$ 250.00
	TOTAL	$ 3,763.21	$ 812.50
Gradcomm 2014	IRS Lighting Equipment	$ 500.00	$ 556.17
	IRS DJ	$ 500.00	$ -
	TOTAL	$ 1,000.00	$ 556.17
UWDNA	TEM Grids	$ 50.00	$ 50.00
	Bis-Acrylamide / Acrylamide Gel Preparation	$ 58.00	$ 58.00
	Pipette Tips	$ 200.00	$ 200.00
	Gloves	$ 30.00	$ 30.00
	Agarose Gel Preparation	$ 102.83	$ 102.83
	Sodium Chloride	$ 55.80	$ 55.80
	Bis(p....) dehydrate dipotassium salt	$ 53.00	$ 53.00
	Boric acid	$ 30.20	$ 30.20
	TOTAL	$ 579.83	$ 579.83
	TOTAL SPONSORSHIP	$ 18,727.04	$ 9,000.00

Motorola Announces Fully Customizable Phone

CAMERON SOLTYS
1A MECHANICAL

Two weeks ago Google-owned smart phone company Motorola revealed a project which could revolutionize the mobile device market. The one-year-old project, known as "Project Ara," is a fully-customizable smartphone which users custom-build by selecting—among other things—the keyboard, screen and battery. The goal is to "do for hardware what the Android platform has done for software - create a vibrant, third-party developer ecosystem."

The phone will consist of an "endoskeleton" that connects the different add-ons both physically and electronically, and numerous "modules" that contain a particular part of the phone: a battery, camera, processor, memory or even a sensor array dedicated to a unique function. Not only will consumers have the opportunity to choose which modules they want on their phone, but they will also be able to swap out old modules for new ones.

Motorola believes the ability to swap modules has many benefits. For instance the phone will be able to remain up to date for much longer than traditional cell phones because users can upgrade individual physical components as they become obsolete. This is not only advantageous for users, but also reduces the creation of environmentally-harmful electronic waste because the whole phone does not need to be thrown out if it is out of date or a part breaks.

On its blog, Motorola also announced that they had partnered with Dave Hakkens, a Dutch designer who has amassed a huge network of supporters on YouTube and Thunderclap for his similar idea, Phonebloks. According to Motorola, "Dave created a community" which they want to use to make Project Ara as successful as they can. To that end, Motorola has rolled out a number of projects to make the development of the phone open to the public. In addition to making a conduit out of Hakkens by which consumers can voice their opinions to developers,

TechRepublic

Modular Smartphones: Revolution or Pipe Dream?

Project Ara will also make use of what is being called "Ara scouts." Ara scouts interested members of the public who sign up to participate in "missions," designed to be opportunities to discuss different aspects of the phone.

A final product, not to mention mass production, is still a long way off. A release date has yet to be suggested, but Motorola is expected to begin courting developers to create modules in a few months while a developer kit is expected to be released this winter. There is still a lot to be done for this risky venture. It is no wonder that Motorola is encouraging such significant public participation in the project; the product will be very-consumer driven: if consumers aren't satisfied, this potentially revolutionary design could be an impressive flop.

Former Waterloo Employee Convicted of Stealing 750,000 Dollars

BRIAN CHAN
2A NANOTECHNOLOGY

Stealing is an unforgivable crime that can harm those around you. Just three weeks ago, Jacqueline Hollmann was convicted of stealing money from one of the stores located on the University of Waterloo campus. It was calculated that $750,000 was stolen over 4 years. This is a large sum of money which had negatively effected many of the people around her and everyone at the University of Waterloo.

First, the act of stealing money put many of her co-workers out of a job. The problem isn't that there wasn't enough money to keep the business afloat, but due to a very long and ongoing investigation, the stores had to be shut down. This has also put the students at a disadvantage. Due to the fact that there was money being stolen on a daily basis, though in very small increments, the losses started to pile up. So did the prices; in order for the store cover the losses, the students themselves got cheated. Students are already money-strapped due to many factors such as tuition costs, but they are now even more financially taxed due to this fiasco. They should be compensated for such a loss because it was management's fault for not noticing it sooner, though this is a pipe dream because management won't compensate the students.

The funny thing is, the punishment is only 16 months in jail and a black star on her record. But at least she will have a clean place to sleep and three square meals a day. Some people might not even have such a luxury. Some of the people who have been put out of a job might not be able to put food on the table anymore and may ultimately lose their homes and break up their families. So what type of soft punishment 16 months of jail? I'm not saying that capital punishment is the way to go but at least figure out a way to punish her more severely as well as compensate everyone affected. This is just simply absurd and I believe Hollmann must answer more truthfully to the call of justice.

University of Waterloo

Jacqueline Hollmann stole $750,000 while working at the University of Waterloo Copy Centres.

FEDS Fee Decrease Motion Postponed

From FEDS on Page 1

and changing the Feds election voting system into a ranked system. The latter issue allows students to rank their desired candidates according to preference rather than simply picking a single one. This system had been used previously in the meeting when selecting the Board of Directors' positions.

The next pertinent item was the proposal of a potential decrease in the mandatory Feds fee by 10%, thereby reducing it from $48.51 to $43.66. While those opposed to the motion believed that Feds required the money, as many of its services operate on a deficit, those for the motion argued that student money was not being spent responsibly with clear priorities and efficiency. Before the vote could be held, however, the meeting was adjourned. The meeting had started 50 minutes late and had continued for longer than expected. The discussion will be brought up again at the general meeting in March.

John Chen to Become Blackberry's Interim CEO

From BLACKBERRY on Page 1

fired following the sale of the entire company. However, given the collapse of the proposed $4.7 billion buy-out of Blackberry to Fairfax Financial, Heins' exit package has been reduced to its current value.

Replacing Heins is former president and CEO of Sybase (an enterprise software company) John S. Chen as interim CEO while BlackBerry searches for a permanent replacement. This appointment is known to be part of the deal between Fairfax Financial and Blackberry. As of November 4th, Chen was appointed and will be responsible for the success (or failure) of BlackBerry. As stated in their filling Chen would be "responsible for the strategic direction, strategic relationships, and organizational goals of BlackBerry." Due to Chen's reputation of saving Sybase back in the 90s, there is hope that he would be able to turn the tides with BlackBerry and perhaps bring it back to its former glory.

Rise of the Indie Game

CAMERON SOLTYS
1A MECHANICAL

With the imminent launches of Sony's PS4 and Microsoft's Xbox One, the gaming industry is getting ready for an explosion of new titles with crisp and clear next-generation graphics. And—as always—"graphics" is one of the biggest buzzwords, attracting the attention of gamers, reviewers and developers.

For instance, there were rumours earlier this year that the PS4 had better graphics hardware than the Xbox One, allowing for it to display games with a higher resolution. This resulted in a huge debate on what constituted good graphics and if the merits of the two machines could be boiled down to the pixel count per inch. Regardless, these rumours do seem to be at least somewhat true: the popular title Call of Duty: Ghosts will run at 720p on the Xbox but 1080p on the PS4. Meanwhile, Xbox Strategy boss Albert Penello tellingly argued that while the Xbox was built to "balance a system for graphics performance... each company has their strengths."

Mojang AB

Minecraft: One of the first truly successful indie games.

And while the long, bitter battle for the title of best console producer rages, filling internet forums and gaming websites, another breed of game has been developing. It's a genre that doesn't rely on photorealistic, high-resolution renderings. In fact, some of its most iconic examples, such as MineCraft, are famous for their poor graphics. It it the indie game genre.

Indie games, which are games produced by small start up companies or even individuals, have been gaining ground in the last few years. Part of the reason is the increasing popularity of mobile games, which have a lower financial and technological barrier to entry than PC or console game development. However the relative ease of producing mobile games is a double-edged sword. Both the Apple and Google app stores have over 700 000 apps apiece, and good indie games can be buried under games from larger companies with advertising budgets.

Indie games are also growing thanks to the increasing popularity of crowdfunding, which allows for many interested consumers to invest small amounts in daring and original ventures. Crowdfunding provides indie developers an opportunity to raise funds for games that wouldn't otherwise attract investment from conventional sources. An example of a crowdfunded game is Papers Please, a surprisingly addictive game in which you work as a border guard, assessing paperwork and trying to get enough money to feed your family. Crowdfunding also provides a game with plenty of hype—exactly what is lacking for a game with no advertisement.

So as the titans of the gaming industry battle for dominance, the indie game continues to march forward, focusing on story, gameplay, and originality. They are a huge departure from the tradition of higher resolution textures and more photorealistic skyboxes. Some, such as FTL: Faster Than Light, have regressed to 2D environments, even on the very 3D capable PC platform. This back-to-basics approach is a trend that will not be going away anytime soon, and their focus on innovative gameplay may pose stiff competition to the established members of the gaming industry.

3D Modelling of Mitochondrial Chromosomes

BRIAN SO
2A NANOTECHNOLOGY

INTO THE NEW WORLD

In a paper within the online edition of Science, MIT professor Job Dekker, and his colleagues have shown new evidence for a general principle regarding condensed, mitotic chromosome organization and structure which is highly adaptable and common in all cells. This new set of data of how chromosomes are disassembled and reassembled in cell division will able to provide new insight that will be able to help scientists and researchers to answer basic questions regarding epigenetic inheritance, human chromosomal diseases, and cancer.

DNA is typically distributed throughout the cell, over a large volume. In previous works by Dekker and his colleagues, it was shown that the points of interaction along the chromosome influence gene expression, and are the reason why different cell types are organized differently in three dimensions. "Each cell type, whether blood, skin or liver cell, has a unique structure and organization that is closely tied to gene expression and function," said Dekker.

One set of theories has poised that the long DNA molecules are coiled in a hierarchy of strands that are successively thicker, ultimately forming large bundles of mitotic chromosomes. Another set of models proposed that the DNA forms a series of loops that are attached to a linear axial structure which forms the backbone of the chromosome.

There are different sets of experimental evidence that support these models, preventing either one from being ruled out. Dekker and the team led by Leonix Mirny, PhD, associate professor at the Massachusetts Institute of Technology. His team developed sophisticated computer simulations which use polymer models of DNA molecules for the two competing theories of mitotic chromosome organization. They found that during metaphase, the chromosome was being packaged into a two-phase process, rather than hierarchally. During the first phase, chromatin loops of length 80000 to 120000 DNA base pairs form, which radiate out from a scaffold. This is followed by axial compression of the chromosome, which results in a tightly folded package like a spring.

The next step for Dekker, Mirny and their teams is to determine precisely what exactly is guiding the disassembling and reassembling of the chromosome.

5 Places to Study on Campus

MYLES TAN
4A SYSTEMS DESIGN

FIVE PLACES YOU NEED TO KNOW

Hey there, first-years! Hopefully you made it through midterm week and have learned-and now understand-it's alternate title. Considering the amount of time you will spend studying over the next five years, it's great to have a variety of places in mind that you can count on as study spots: staring at your own desk or other people in a library can get old very quickly. Here are five places that are great for hitting the books on campus.

Ron Coutts Hall (RCH), Empty Classrooms

RCH is composed entirely of lecture halls. Although they receive heavy use during the day, many are free during the afternoon and evening hours. For many people, the feeling of being in a classroom lends itself to more academic tasks, and helps with concentration and studying. Classrooms also tend to be quiet, as people rarely choose an empty classroom as the location anything social. If you're bold, venture to the cell signal-less void which is the bottom floor (FOR SCIENCE!).

Residence Common Lounges

All residences on campus have common lounge space, which tend to be under-used; it usually doesn't take much looking to find an empty one. They're also great for group work, plus the fact that you're still close to home for food, rest, or anything else you might do to fill your study break time.

Student Life Centre (SLC), Upper Level

The upper level of the SLC is filled with large tables which are great for working. The SLC has everything you'd need for extended study sessions, and the bigger space makes it easy to work in groups. It does get a bit busy during peak hours (lunch and dinner), but put in some headphones and you'll be fine. There are also private rooms you can book out at the TurnKey Desk.

Tatham Centre (TC), Interview Rooms

When interview rooms are not being used for their intended purpose, the Tatham Centre interview rooms can be booked out on a first come, first serve basis by exchanging your WatCard for a key at the front desk. If you're looking for some serious silence, this is a great place to go. TC also has a cafe with acceptable hours, and is connected to the South Campus Hall (SCH) by underground tunnel for easy Timmy's runs.

Environment 3 (ENV3), 4th Floor

The new Environment building has a great study spot on the northwest corner of the 4th floor. There are a few couches and a decent amount of bar-style seating. There are even a few private study rooms if you can catch one of them. There's lots of sunlight during the day, which is nice in the colder months. Plus the William's on the first floor makes coffee and food runs a breeze.

BC Brings Back the Booze

JESSICA KEUNG
2A CIVIL

The government of British Colombia is now considering allowing the sale of alcohol in retail stores. Soon you may be able to buy a refreshingly intoxicating drink whilst you buy bread, milk and eggs. The idea of selling beer and wine in grocery stores is popular amongst British Colombians, so the BC government encouraged a public consultation on how to overhaul and modernize the liquor policies, including an 84 day consultation with stakeholders. The BC government is currently looking into the best models throughout North America to balance health, safety and convenience. These models include a "store within a store" model in Nova Scotia and the Quebec model of allowing grocery stores to sell domestic and imported beer, as well as local wines. The Ontario system, where local wineries are allowed to sell bottles in either freestanding stores or a store within a grocery store, was also considered. Other liquor policy suggestions include allowing craft beer and wine to be sold at farmers' markets, streamlining the liquor license application process for special events and allowing children to accompany their parents at liquor establishments such as pubs and legions. BC medical health officers have called for a freeze or reduction to the number of private retailers, a $3 minimum price for bar drinks and higher prices for drinks with more alcohol content to deter over consumption. To all the students out there hoping that Ontario will start selling alcohol in grocery stores, the Liquor Control Board of Ontario as announced a similar pilot project with 10 "express" stores to offer limited selection inside or next to grocery stores. On the other hand, Premier Kathleen Wynne has shot down any plans to start selling beer and wine in Ontario convenience stores, but will broaden their availability through speciality outlets.

DIY: Body Brewing

JESSICA KEUNG
2A CIVIL

Have you ever wished you were drunk all the time without the stigma of being an alcoholic? Do you enjoy home brewing but hate needing a vehicle to get the beer from the bottle to your belly? Now you can forgo the bottle if you have the auto-brewery syndrome.

A 61 year old Texan man suffers from this disease and try as he might, he cannot stay sober. Every time he eats bread, pasta or anything with carbohydrates, his stomach produces a surplus of brewer's yeast that goes into his bloodstream and creates the same effect as drinking beer.

When he wakes up, goes to church, work, or for a walk, he becomes drunk. At first, his family was worried that he was drinking without them knowing, but one day, he stumbled into a hospital complaining of dizziness. Doctors laughed at his claim that he did not have any alcohol even though his blood alcohol levels were five times over the limit. After being put in isolation for 24 hours without any alcohol or sugar, the man's blood alcohol level was still higher than the legal driving limit. His doctors were astounded when the gastroenterology tests revealed that his stomach uncontrollably brews beer, which is a buildup in Saccharomyces cerevisiae - a common yeast. Whenever he ate starch-heavy or sugary foods, the carbohydrates would ferment into ethanol and travel into his blood stream.

Now the Texan man is on a low carbohydrate diet and an antifungal drug prescription to help him manage his blood alcohol levels. This can happen in patients after taking antibiotics; the antibiotics kill all the bacteria in the stomach and allow yeast to grow and thrive. Researchers have documented another case of auto-brewery syndrome in a 13 year old girl whom doctors suspected of abusing alcohol.

Why Should You Network?

ELIZABETH SALSBERG
2A NANOTECHNOLOGY

THE NETWORKING ENGINEER

Welcome back readers! The past three issues have covered some key networking topics – but they did not explain why you should network. After all, it does take significant time and effort, and success is certainly not always guaranteed, particularly if you are just getting started.

To start off with some cold facts, only about 20% of job searchers find jobs through advertisements or public messages that employers put out. Competition for these jobs is always very high because all qualified candidates will be able to see that they are available and thus will be able to apply. This in turn creates issues at the employer end, as no one wants to read through 500+ resumes!

Well, we all know what that means – you need an inside track. Put yourself in the employers' shoes: wouldn't you rather hire someone you know you're comfortable and familiar with? This is where networking comes in.

A brief informational interview is a great way to getting to know a potential employer and ask questions about the field, but it alone isn't not always enough to get a job, particularly if the company isn't hiring at the time of the interview. Following up with your interviewees is critical since it's difficult to remember someone you've only spoken with once on the phone for 20 minutes.

During a follow-up or even an informational interview, it's always good to mention a few of your interests or hobbies. Common interests are a solid foundation of all new relationships so use them to your advantage. Remember, being 'interested in working at their company' is not an interest or hobby! No matter what your hobby may be, it tells the employer something of note about you, thereby helping them remember you better. If you're lucky, they too enjoy that particular hobby and voilà you've got yourself a new friend who may be able to help you out at some point!

It's clear that networking is definitely a great tool when it comes to finding jobs in times of scarcity. This especially applies to young professionals just starting out in the workplace, particularly because new workers often lack experience in the industry or field. Though networking does take some time and effort, it is generally a rewarding experience.

You network every time you meet someone knew. Sometimes you're able to maintain a friendship with the person, other times not so much. But when you're in the market for jobs, it's in your best interests to maintain as many of these new contacts as you can. Even if you can't get the job right away, you never know what will happen a few years down the road.

Rich People Eating Dirt

NANCY HUI
3B CIVIL

TAKE FIVE

This week, I have compiled a list of five movies featuring rich people experiencing tragic turns of fortune. Why not a series of traditional rags-to-riches success stories? Well, from listening to certain artists discuss the trials and tribulations of being incredibly rich and famous, characters just become less sympathetic after they've achieved success. By bringing the 0.01% down to earth, just for a while, evokes pathos that isn't present the other way around.

The Great Gatsby (2013)

Nick Carroway (Tobey Mcguire) moves to a wealthy neighbourhood in New York circa 1925, and is immediately intrigued by his neighbour Jay Gatsby's (Leonardo DiCaprio) grand parties and his cousin Daisy's (Carey Mulligan) romantic entanglements. None of it ends well.

I generally dislike Baz Luhrmann's opulent style (Moulin Rouge!, Romeo + Juliet) but he has finally found a medium for his art. The swinging 20's, as they were known, were a glittery flourish of fringe and art nouveau bobs before the Great Depression. But for the main characters, their downfall comes far before the stock market crash of 1929.

Anyways, the leading actors carry their iconic roles well without being overwhelmed by Luhrmann's scenery and it's a schaedenfreudal pleasure to see them crumble under past glories.

Iron Man 3 (2013)

Tony Stark (Robert Downey Jr.) is suffering a spot of post-traumatic depressive disorder after the events of The Avengers and copes by building dozens of Iron Man suits. However, a well-placed missile strike by a terrorist figure known as "The Mandarin" forces Tony to improvise without his millions.

Given the trend of darkening superhero movies ever since The Dark Knight, it was only natural that the Iron Man franchise might take a darker turn - never mind that the first installment was released a mere two months before the sequel to Batman Begins. Of course, "darker" is relative when speaking of Tony Stark. RDJ channels the obnoxiously rich billionaire philantrophist playboy as well as he ever did.

I also enjoyed the premise of forcing Tony back to the metaphorical stone age - i.e. in a dark room with a box of scraps. It's the best way to showcase his ingenuity and reinforce that, like Bruce Wayne, there's nothing mere about that mortal.

Terminator 3: Rise of the Machines (2003)

John Connor (Nick Stahl), future saviour of humankind in a prophesied machine apocalypse, rushes around Los Angeles and tries to shut down Skynet before it becomes self-aware. Meanwhile, paradoxen inducing Terminators (Arnold Schwarzenegger and Kristanna Loken) are getting sent from the post-nuclear-holocaust future to the past left and right.

Warner Bros. Pictures

The Great Gatsby: the classic tale of one man's journey from rags to decadence.

Time travel and prophecies aside, the Terminator franchise is not a very intelligent line of action movies, culminating in the abominable Terminator Salvation. However, Terminator 2 is my favourite, because of how ickle John Connor and the Good Terminator played off each other. Terminator 3 has none of this childish charm but at least it's better than Terminator Salvation: its plot twists make sense, fit neatly with the canonical future as we understand it, and is mostly entertaining.

Gone with the Wind (1939)

Scarlett O'Hara (Vivien Leigh), spoiled daughter of the owner of the Tara Plantation, loses her fortune and husband during the American Civil War and the tumulteous period that follows. Yawn.

This is one of my mom's favourite movies. I enjoyed the book, but I don't believe that this film fully embodies the passion and chaos that of the Civil War period. Perhaps it's the style of the period but the actors looked like they were just going through the motions. Even Rhett Butler's famed parting line feels weak with Clark Gable's delivery. Or was the urgency lost with the four-hour running time, complete with old-timey intermission music?

Regardless, Gone with the Wind is still an excellent bit of filmmaking. It's amazing how the production keeps the whole narrative comprehensible, even if the stars no longer can.

Cinderella (1950)

A widower with a young daughter remarries and dies, leaving her in the clutches of the evil stepmother and her two socially awkward, colour-coded daughters.

Cinderella is my absolute favourite pre-Renaissance Disney movie. I love the fairy godmother and her awful taste in formalwear. I love the fat king and the skinny duke who try to get Prince Charming hitched. Most of all, I love the little mice, with their subplots and personalities. Two of them remind me of Goscinny's Asterix and Obelix, complete with adeptness at physically-improbable comedy.

Getting Up to Speed on the World Series

ELIZABETH SALSBERG
2A NANOTECHNOLOGY

THE BENCHWARMER REPORT

Leafs fans! It seems like the Leafs are off to a mighty good start this season! They are first in their division, tied with Tampa Bay and with Detroit and Boston right on their heels. Though the Leafs were projected to be likely candidate for the playoffs, nobody expected them to lead their division. So what has led them to such success thus far? Let's find out.

Kessel and van Riemsdyk: The One-Two Punch…

Top–liners Phil Kessel and James van Riemsdyk lead the team with 13 points apiece. In spite of the recent absence of their regular centre Tyler Bozak due to injury, both have kept up the point production in the past several games, keeping the leafs out of trouble on the scoring end of things.

Depth on the front lines…

Though the Leafs continue to rely on their top line for the majority of their points, one can't discount centre Nazem Kadri and winger Joffrey Lupul who each have 13 and 11 points respectively. Mason Raymond and Dave Bolland have also been a reservoir of somewhat unexpected points, for a combined 21 points to date. Bolland seems to have kept up his go-ahead, game-winning and overtime heroics (remember last year's Stanley Cup final?) giving the Leafs the edge in games critics would argue, they really ought not to have won.

D are pinching in…

In addition to strong production from the forwards, Cody Franson and Dion Phaneuf have been serious point contributors from the back end. Though Franson has not actually scored any goals, his 10 assists on the season so far demonstrate his offensive value to the team—having that fourth person jumping up on the rush opens up a far more dangerous threat to the opposition than just a couple of forwards. If you're lucky, you won't get hit with that laser of a shot from the blue line.

WHAT A STOP! CAN YOU BELIEVE IT?!!!!!!!!

In an article last winter, I said the Leafs would need a wall between the posts if they had any hope of getting anywhere. Well fans, it wasn't a problem, as goaltender James Reimer had a fantastic latter half of last years season and a phenomenal playoff despite the eventual agonizing loss. But let us forget about the past!

This year we not only have Reimer on his game (2.36 GAA), but we also have another quality goalie in Jonathan Bernier. With the Leafs, Bernier has maintained a stellar 2.17 GAA in eleven games. This offseason acquisition was a complete bargain!

Well Leafs fans, that pretty much sums it up—the Leafs are truly playing as a team this year. The question now: Can they keep it up? If yes, we could have a serious Canadian contender in the East this year… and we know it's good not to lay all Canadian NHL playoff hopes on Luongo and those Canucks, don't we?

Maple Leafs Sports and Entertainment

The Leafs are looking stronger than they have in a decade.

Asian Carp and other Invasive Species

NINA FENG
2B ENVIRONMENTAL

LEAFY THOUGHTS

Invasive species are non-native species that, upon introduction into an ecosystem, proceed to thrive and wreak havoc on habitat, resource availability, and general health of the environment. Other organisms suffer, and the balance and wellbeing of the area is threatened. Invasive species come in many forms, including plants, mammals, amphibians, fish, and birds. The following is a random collection of notable killer animals, starting from the waters of Ontario.

Asian Carp

In North America, one of the most prominent invasive species for aquatic environments is the asian carp. Recently, scientists found that the fish species has now reproduced in the Great Lakes water basin. The finding is not definite, as it is based on the detection of the asian carp's DNA in water samples in Lake Michigan. While carp have been found in the past, it is hard to determine whether or not they've managed to breed and spawn through just the presence of DNA alone. This is the second positive hit, the last one being in 2010. Researchers hope to conduct more surveys in order to determine the likelihood of a potential environmental disaster. Several invasive carp subspecies, such as the asian grass carp, have already been detected in the area, but no populous asian carp communities have been found thus far. A notable and alarming development is the discovery of one such specimen in the Grand River, central to our own Waterloo region's aquatic habitats. This was not such a serious threat since it was sterile, as such is was released, thought it should be noted that it did not originate from the area. However, its presence is very dangerous due to the fact that the Grand River empties into Lake Erie, a sensitive area that also happens to be the perfect breeding ground for the carp.

Asian carp were imported for various reasons and subsequently escaped, creating communities in areas such as the Mississippi River basin in the United States. It is likely that any carp in the Great Lakes originated from there, or else through the release of live specimens into the wild by humans. An electric barrier was set up in Illinois in order to prevent their passage into Lake Michigan, but a grass carp specimen was found beyond that point, indicating that the solution may not be working as well as environmentalists had hoped. The biggest fear is that the bighead and silver carp may find their way northward into Canada, as they are more prolific breeders and consume vital organisms of low trophic levels, such as plankton. In essence, these fish compete directly with the native species for resources.

Sea Lamprey

Another Great Lakes invasive species is the sea lamprey. First detected in Lake Ontario in the 1830s, and possibly originating in Lake Erie, it soon spread to the rest of the lakes. It attacks primarily large predatory fish, such as trout, whitefish, and herring. Sea lampreys have suction-cup mouths which they se to latch onto fish, tear away the flesh, and suck their blood. Typically, the fish die from loss of blood, or infection. As with the asian carp, electric barriers were used in an attempt to control their numbers, along with lampricide poisons. In general, the efforts have been unsuccessful.

Common Rabbits

Common rabbits originated in Europe and northern Africa, but they've now just about permeated the globe. They're pests (though adorable) that reproduce at an alarming rate with destructive grazing and burrowing habits. In some areas, their effects have been devastating. No other place on Earth has felt it as bad as Australia has. Within a decade after their introduction, their populations were so huge that they'd spread partway across the country, and are currently credited with being the number one reason for loss of species and biodiversity. Plant species have been decimated by their overgrazing and wastefulness. The death of plants exposed soil to erosion will not be repaired for centuries. The Australian government has taken drastic measures to control them, building a long fence spanning more than 3,000 kilometres, vertically separating the length of the country, in order to prevent rabbit passage from the east into the western agricultural areas. This proved to be somewhat ineffective, since rabbits can both jump and burrow. Hunting, trapping, and baiting are the most common forms of rabbit control, and have been successful in lowering their numbers. Biological control methods were also used, such as infecting the rabbit population with specialized diseases, though these processes are generally slower.

Burmese Python

Burmese pythons were first introduced to the United States from Southern Asia, as an exotic pet. They are one of the five largest snakes in the world, capable of reaching up to 6 metres in length. They thrived in Southern Florida, where the Everglades are located. Many of these snakes were released into the wild by pet owners who could no longer keep them, but an even greater number escaped from homes and a python breeding facility during a 1992 hurricane. The Everglades are a region of tropical wetland with high biodiversity, most famous for its abundance of alligators. The pythons multiplied and a new top predator was introduced into the area, capable of killing even the alligators themselves. The already endangered bird, amphibian, and fish species in the area are now in even more danger, as are the regional predatory mammals such as the coyote and the panther.

There are many other interesting types of species similarly destroying the habitats of regions they did not originate from. The Nile river system contains 200 kg fish that eat up just about everything. Giant Cane Toads have been decimating nearly everything they see in island regions such as Hawaii and the Philippines. The Snakehead fish, a creature thirsty for blood and able to survive for days migrating on land, has made is home all over the United States. Meanwhile, the southeast part of the country is being smothered by vines that grow 1ft/day, covering 150 000 acres per year. Evidently, humans seem to be the common factor in how these species got to where they were not supposed to be. It is clear that further research and education is needed in order for people to realize that while these organisms seem harmless in small quantities at first, they pose huge threats to the health and balance of other habitats.

Biking in Waterloo Weather

KEVIN LIANG
4A CHEMICAL

THE BIKE LANE

There's no such thing as bad weather, only bad clothing. Or so the saying goes. But anyone up here in Canada knows that that's not entirely true. Although snow has already hit the pavement, there are still many weeks (or longer) before you have to retire your two-wheeled commuter for the season. Everyone has different weather tolerances so dressing properly for winter riding requires a bit of trial-and-error, especially during your first winter. However, a constant eye on the daily highs, lows, and chance of precipitation will help take some of the guess work out of the equation.

Layering is critical. Many thinner layer will allow you remove and add articles of clothing throughout the day. Around this time of year, the weather has an identity crisis. It can't decide whether it's Fall or Winter so it bounces between the two extremes. Layers can be shed and stuffed into a pack when the temperatures rise during the day, and can be put back on when the temperatures dip after sunset. Thin layers will also trap heat better than large bulky clothing. A decent rain jacket over everything will help keep the rain and wind out when the weather is particularly miserable. Cuffs with elastics or Velcro straps are essential to prevent cold air from running up your sleeves and cooling your core. The correct number of layers does depend on many factors so experiment with what is comfortable for you. A cold morning ride is a good indication for more layers the next day.

Cold extremities are the worse. Cold hands can limit your braking power and greatly reduce handling. If your hands are cold even with gloves on, it could be an indication of an inadequately insulated core. Your body will restrict blood flow to your extremities if it thinks that the core needs it. It's a common mistake to wear thicker gloves as a solution to cold hands. Thin wind-proof gloves will keep the wind out while still allow for good dexterity for breaking. A pair of leather gloves over top of a pair of soft gloves are a great solution.

Cold, wet feet will ruin the rest of your day. There is not much worse than arriving at school with a pool of water sploshing around in your shoes. Extra socks are not the solution to this problem. Additional socks will cut off circulation to the feet and result in cold toes during the commute. Shoe covers are excellent in that they keep wind and water out of your shoes, but a cheap solution is a pair of socks over your shoes. It gives you an extra layer of protection from the elements.

The vents in your helmet do wonders in the summer to allow air flow to dry sweat from the head. A considerable amount of heat leaves through the head so blocking those vents would greatly help to keep you warm. A cycling cap worn underneath your helmet will help keep your head warm and dry. In fact, any covering underneath your helmet will help reduce heat loss through the head significantly by placing a barrier between the head and the incoming wind.

The Columbia Chronicle

Biking in Waterloo's winters is no problem as long as you take the proper steps to protect yourself.

Keeping yourself dry is very important. Fenders over the rear wheel will keep that dirty skid mark off your back. Fenders over the front wheel will keep sand and water out of your face. Front fenders will also shield your legs from water coming off of the front wheel. Although fenders will keep you somewhat dry, nothing beats good rain gear. Water-proof pants and jackets will always keep you dry.

What works and what doesn't will vary from person to person. These are just some things I do to make my winter riding as enjoyable as possible. There is this feeling of invincibility when riding in bad weather. It's like you can conquer anything.

The US Government Shutdown

MEAGAN CARDNO
24 NANOTECHNOLOGY

WORLD IN A NUTSHELL

For the US Government, September 30 represents the end of the financial year, and as such congress is required to create and decide on a budget for the new fiscal year by October 1. It can be thought of as a law that both the Senate and the House of Representatives must agree upon— however, last month, it was very quickly apparent that no such agreement was going to be made in time for the deadline.

The Affordable Care Act, more commonly referred to as Obamacare, was the main sticking point that caused the unfortunate disagreement between the two groups. Since the House of Representatives is comprised primarily by Republicans, and the Senate by Democrats, the budget essentially became their battle ground over the implementation of Obamacare.

Since the beginning of 2013, it was clear that the Republicans were not going to allow Obamacare to pass without a fight. Despite already being declared constitutional by the Supreme Court, over thirty failed repeal efforts from the Republican party, and Obama's re-election for his second term as President, plans to defund Obamacare were in constant circulation. Texan Republican Senator John Cornyn is quoted in January with the ominous premonition: "It may be necessary to partially shut down the government in order to secure the long-term fiscal well being of our country, rather than plod along the path of Greece, Italy and Spain."

When September rolled around, and budget plans were already clearly on a path for disaster, Republican Senators from multiple states demanded a repeal or change in the Affordable Care Act if the budget was to pass, with Texan Senator Ted Cruz even giving a 21-hour speech to the Senate to solidify his professional opinion on the matter. As the beginning of the fiscal year drew nigh, Republicans repeatedly proposed temporary government funding until December, so long as Obamacare was omitted from the plans, clearly reflecting their hopes of continually delaying its implementation. However, the Senate continued to refuse these offers, and the President himself threatened to veto any proposed bill that would delay the Affordable Care Act's implementation.

The burning question then becomes just why exactly the Republicans were so adamant about rejecting Obamacare. A one-dimensional analysis of the situation could tag the problem as Republicans merely wishing to disagree with any idea headed by the Democratic Party, regardless of its possible merits or benefits. Of course, members of the party provide a few common answers as to the true 'dangers' that they see in Obamacare. They believe that a reformation of health care will negatively affect the economy, claiming that it is not economically viable and poses threats of job loss, unnecessary rising of taxes, and an even bigger governmental deficit.

However, many critics not only debunk these threats, but argue that what the GOP truly finds frightening is what will happen when the public realizes the true benefits of Obamacare, and thus may change the voting positions on the potential millions of American citizens who will see great life improvements through the improvement in health care— previous votes for the GOP may find themselves redirected to the Democratic Party. In addition, recently conducted polls show a significant opinion of approval from Americans towards the benefits and specifics of Obamacare— but notably when it was referred to by its formal name, and not the unofficial one.

Wikimedia Commons

On October 1, the US Government shut down for the first time in 13 years.

On October 16, the governmental shutdown finally came to an end, after a multitude of meetings and negotiations between the two parties' members. In the end, despite all of the effort on the part of the Republicans, the Affordable Care Act was neither defunded, nor delayed in the budget; the only amendment that came about was a requirement to carry out more thorough income checks for people registering for insurance exchanges. The bill passed was a temporary one, which will fund the government until the 15 of January, 2014, and will raise the looming debt ceiling until the 7 of February.

The effects of the following shutdown were nothing to overlook— 800 000 governmental employees in non-essential sectors, such as NASA, national parks, and tourist attractions, were relieved of duty without pay, taking on a "furloughed" status, and another 1.3 million working in essential sectors, such as mail delivery, military workers, and tax collectors, were required to work without any promise of pay in sight. Fortunately, all furloughed and unpaid workers were arranged to receive payment after the end of the shutdown. The potential effects it had on the public support for the GOP has yet to be seen.

All that remains now is to wait until next January, at the end of the temporary bill's lifetime. Obama himself has expressed no worry that the process repeating itself all over again— unfortunately, many reporters (and much of the public) are not as optimistic.

Reflektor

Arcade Fire

ALEX TOTH
3B CHEMICAL

ALBUM OF THE WEEK

As a preface, I was probably going to write about this album even if it was terrible. I just have a huge soft spot for the Arcade Fire. I credit them for being the catalyst which turned me into the music nerd that I am today. Their 2005 debut, Funeral, which stands as possibly the finest album of the decade, came out when I was in 8th grade, right in the middle of the formative years where I was moving through the "edgy" phase of my musical tastes (Linkin Park, My Chemical Romance, Fall Out Boy and Panic! At the Disco all featured prominently on my iPod Mini). It was the first thing I listened to as an album, with its recurring themes (and song titles). And although I listened to it alone (it took like two days to download on LimeWire), it really felt like a shared experience. Funeral was a triumphant album: ragged, joyous and youthful. It had never crossed my mind that you could have a rock band with nine people singing at once, or realize that if you do you can create songs like "Wake Up." It was a milestone album for me, and I still go back to it to this day. Now, eight years and two more albums later, they've given us Reflektor, their fourth full length. Don't be alarmed by the first sentence of the review, though. Reflektor is in no way a bad album, although it doesn't reach the heights of Funeral. It's Arcade Fire's loosest record, their longest record, as well as the record where it sounds like they're having the most fun.

A lot has gone on between Funeral and now. Arcade Fire have released two albums in that span: 2007's haunting, paranoid Neon Bible and 2010's stately, meditative (and Grammy Best Album-winning) The Suburbs. And as much as Arcade Fire probably don't want it to, the Grammy win matters a lot. Although Funeral was lauded by pretty much every single music writer on the planet, it didn't shoot them into U2-like superstardom by any means. This was incredibly evident after the Grammy win, where the ever informed social media spheres began the "Who the F*ck is Arcade Fire?" campaign. But now, they have eyes on them, and I'm sure there was pressure in the lead-up to Reflektor's release. This was evident even in the album roll-out. Arcade Fire stole some moves from Kanye West and graffitied the Reflektor hieroglyphics on buildings, as well as played hidden shows in trendy Montreal clubs as "The Reflektors." And it seemed to have worked. The hype leading up to this album was huge, and Arcade Fire lived up to expectations by releasing a sprawling, messy, and gorgeous double album.

If Funeral was the Arcade Fire's London Calling, or their Siamese Dream, then there is no doubt that Reflektor is their Sandinista! or Mellon Collie…, albums that indulged in their creator's every whim and left turn and still ended being landmarks. The album is indebted to band member Regine Chassagne's homeland of Haiti and the Caribbean feel permeates through the entire album. From the first song, aptly titled "Reflektor," you know this is an Arcade Fire album, whether it's from Win Butler's paranoid vocals, Regine Chassagne's French, the mentions of meeting a "resurrector," or even the creepy Anton Corbijn-directed video. But the song also moves in ways an Arcade Fire song never has, taking the precedent set by Suburbs highlight "Sprawl II (Mountains Beyond Mountains)" and using it to create a warped, not-quite-disco song, complete with falsetto, elliptical synthesizers, and bass saxophone. From there, the album moves into funk grooves on "We Exist," distorted rock n' roll on "Normal Person" and epic arena stomp on "Joan of Arc." This all comes on the first disc of the album, and doesn't even touch on the highlight of the first disc, "Here Comes the Night Time." The fourth song on the album, it sounds for about the first ten seconds like it's going to be a whirlwind of a song, with high speed guitars and bongos. And then, it slows itself way down into a churning bass groove, with Win Butler trying his best to rein in his voice around the groove, and rollicking piano cutting him off when he can't. It reminds me of Vampire Weekend insomuch as it's a huge, awkward and joyous cultural appropriation. It's one of the weirdest and bravest experiments by the band, and somehow it's successful.

Merge Records

Arcade Fire's foruth album, *Reflektor*, came out on October 28 2013 after a significant publicity campaign.

The second disc of the album also has a few highlights, but it is slightly marred by some of the songs lengths and repetition, although almost all double albums have the same problem. In spite of this, a few of the songs are hugely successful, including the epic and choral dirge "Awful Sound (Oh Eurydice)" and the keyboard-flecked "Afterlife"' which brings to mind some of the more uplifting songs on Funeral.

Reflektor is the strangest of Arcade Fire's four releases, and will probably be the most divisive as well. It takes its cues from anywhere, including 70s rock n' roll, calypso, disco and, due to producer James Murphy (of LCD soundsystem fame), dance. It is wild, awkward, unfocussed and long. It doesn't have a singular vision, unlike the three previous releases, and instead focuses on textural washes and thematic shifts. But none of this should be taken as marks against the album, because I'm sure that is exactly what Arcade Fire planned. And, like Funeral before it, I will probably be going back to it for years to come.

How to Talk to: Meth Lords

CHING O'MALLEY
2T AEROSPACE

HOW TO TALK TO

In light of the recent popular meth show "Breaking Bad" series finale, our lives are now suffering from withdrawal of drug-trafficking and organic chemistry-based illegal activities. To help fill that void in your life, why not learn how to talk to meth lords so you can become a real life Heisenberg or at least a Jesse Pinkman?

One of the main problems us engineers would have with talking to meth lords would be to contact the local meth lord in the first place and strike up a casual conversation. The best way to get in contact with the community meth lord is to look them up on Kijiji or, y'know, smoke a shit ton of meth. When your meth stamp card has been stamped 10 times and you have traded everything you own for more meth, the meth lord may be willing to talk to one of their best customers. Remember the bugs under your skin will stop crawling if you smoke more meth.

Another way to get in contact with the local meth lord is to become a meth lord yourself. You engineers who have taken organic chemistry will know enough to start your own meth lab. Do so and start selling meth of the highest quality with cool colors, like green, yellow or even blue. If you are color blind and have difficulty differentiating colors, just call it blue and hope it isn't red. After befriending a high school burn out with a heart of gold to help you with distribution, you will need people to help you make more meth to keep up with demand and someone to help you keep track of all the money. Once you are rolling in the cash money and you have killed all other competition in the area, you will most likely have a meth empire which needs more employees to help you cook. Why not hire University of Waterloo co-op students from chemical or nanotechnology engineering? Cooking meth involves a lot of laboratory work, test tubes, chemicals, and lab coats, allowing your coops to gain valuable employable skills. Pay them enough money or get them hooked on meth and you don't need to worry about them ratting you out to the cops and you will get government subsidies for hiring students.

Remember meth lords, hire Waterloo!

Meth lords are generally very organized people and are heavily involved in crime. It is a very organized crime. They have mobsters and gangsters that help them distribute and buy the best product to sell to their most fucked up, most people-stabbing-est customers. Meth lords love getting presents from their customers, things like homemade stacks of money, someone else's jewellery and cars that were stolen. Do not worry if your gift is insufficient, you will find out eventually: Meth lords are notoriously vocal and they are not known to leave passive aggressive messages everywhere about how much they hated your gift. Instead they will send their biggest guys to threaten to break your knees. They are a lot like the CECA, except you have a lot more choice with the mob. The CECA will make you an offer you actually can not refuse or else you lose access to JobMine. At least the mob just breaks your knees and you are still able to go to interviews. Do not get the CECA mad because they are crazier than Tuco. If you truly do not know who the CECA is, then maybe the best course of action would be to tread lightly. Meth lords are not the danger: the CECA IS the danger.

Jeff Drew

Bryan Cranston made being a meth lord sexy again.

DISCLAIMER: I LOVE YOU CECA, PLEASE DO NOT HURT ME, OH GOD, DO NOT HURT MY FAMILY.

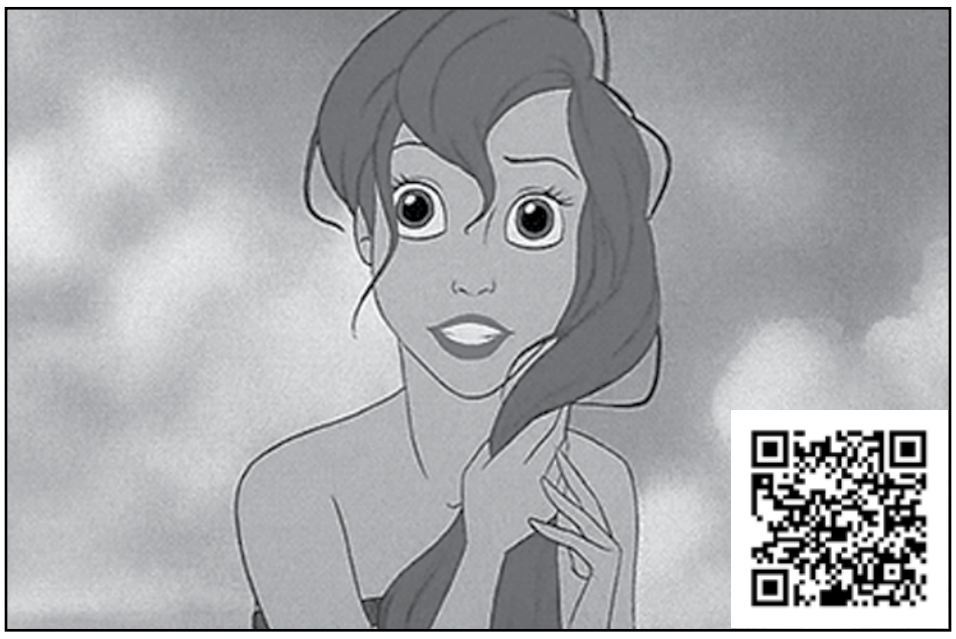
In meth-lusion, do not smoke meth, do not cook meth, avoid meth. Meth just causes so much drama and I do not need that in my life. Save it for the Emmy's. #BryanCranston2014

Top Feelz that Only People Addicted to Garbage Linkbaiting Websites (and their Facebook Friends) Will Understand

WADE WILSON & EDWARD BLAKE
4Z HANDSOMENESS

Every other week, we here at Topz (with a Z) pour over our column while sipping on our pour-overs from Pizza Pizza, because they have the free wifi. But then we noticed what was on the monitors of every other person in this café: gifs, gifs, and gifs (pronounced gifs, gifs, and gifs, respectively). And then it occurred to us: why are we even trying when we can be raking in ad revenue (money we steal from Alex Lee every time we hear someone talk about our column … we've earned it!). So instead we are trying our hand at the absolute lowest, laziest, and mindless pandering garbage. It's not that we are being lazy ourselves; this is commentary … and two days past the deadline for article submission!

1) When someone mentions something that was popular when you were 13 and almost everyone likes, thus making them your soulmate



OMG Nostalgia!

2) When someone makes a *scandalous* reference to an act that literally everyone's biological parents have done

Sex! We're talking about SEX!

3)That feel that only people desperate to feel like they are a part of a community will understand

You like that massively popular TV show? *I* like that massively popular TV show!

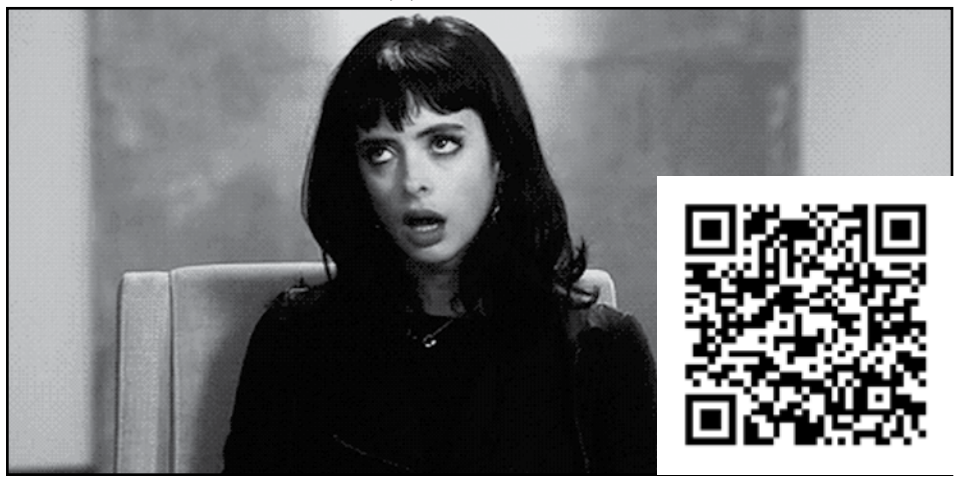
4)When the brainwashed finally learn the truth about drugs

Actually drugs can solve all problems, idiot.

5)When someone makes the vaguest possible connection to a trending celebrity

Famous person?! I've heard of famous person!

6)That feel when you realize this article meant to mock lazy writing is probably your most read to date



We hate you people, seriously.

Headphones

Listening Again

VINCENT MAGAS
2A MANAGEMENT

HIT REPLAY

Plug in, hit play and let your senses come alive! Whether you're listening to some death metal, floating to the skies with some Euro-trance, or listening to your favourite movie soundtracks, you probably have a pair of headphones sitting snugly on your head! It's not hard to spot people sporting a pair of headphones hanging on their necks whether you're taking a bus, or walking down the street. Once again, audiophiles, DJs, Sound engineers, and music lovers cheer as over-ear headphones take centre stage once more!

Believe or not, the first modern headphones which came out in 1910 had little to do with music. The headphone were invented by Nathaniel Baldwin using everyday materials in his own kitchen. These headphones were later sold to the U.S Navy and used for early radio and telecommunications work. During this time the sound quality from the headphones were crude due to the use of moving iron drivers and the lack of damping. Often these headphones were also terribly uncomfortable having little to no padding at all and a large amount of clamping force.

It wasn't until the year 1958 that the headphones we know today came into existence. Prior to 1958 the use of headphones was almost strictly for radio work and music. John Koss, introduced the SP3 Stereophones which were targeted at the consumer market for the specific use of listening to music. Everything changed from this point onwards as the sound quality drastically improved. These were headphones built for music, intended for music, and optimized for music.

In the years that followed, on-ear headphones were omnipresent. Many audio companies jumped into the pool and started producing their own sets of headphones for audio use. In 1979 the iconic Sony 'Walkman' was released along with a pair of slim headphones. The compact music player pushed headphones out of the homes and out onto the streets!

Similar to the decline in vinyl records in the 90s, on-ear headphones dropped in popularity as ear buds appeared. The digital age and the notion of "compact" and "lightweight" controlled the consumer market. Ear buds continued to increase in popularity while on-ear headphones slowly faded to audio enthusiasts, DJs, and was left to professional audio or radio work.

It wasn't until recent years when the voice of audio enthusiasts were reverberated in the consumer market. Attention was brought to the downward spiral of audio quality that was provided by shrinking ear buds. This spark rekindled the flame of headphones, as more and more people noticed this difference in quality. Headphone sales have continued to increase in the past years, and has once again become a popular trend. Full-sized on-ear audio headphones can once again be seen hanging in stores, as many in number as their lighter and smaller counterparts.

Headphones are iconic, and they are once again trending. Whose to say how long they'll soar in the consumer market? Perhaps they will even reclaim their glory as in the 70s and 80s. Only time will tell where this trend is going. In the meantime, just grab a pair and just enjoy the music!

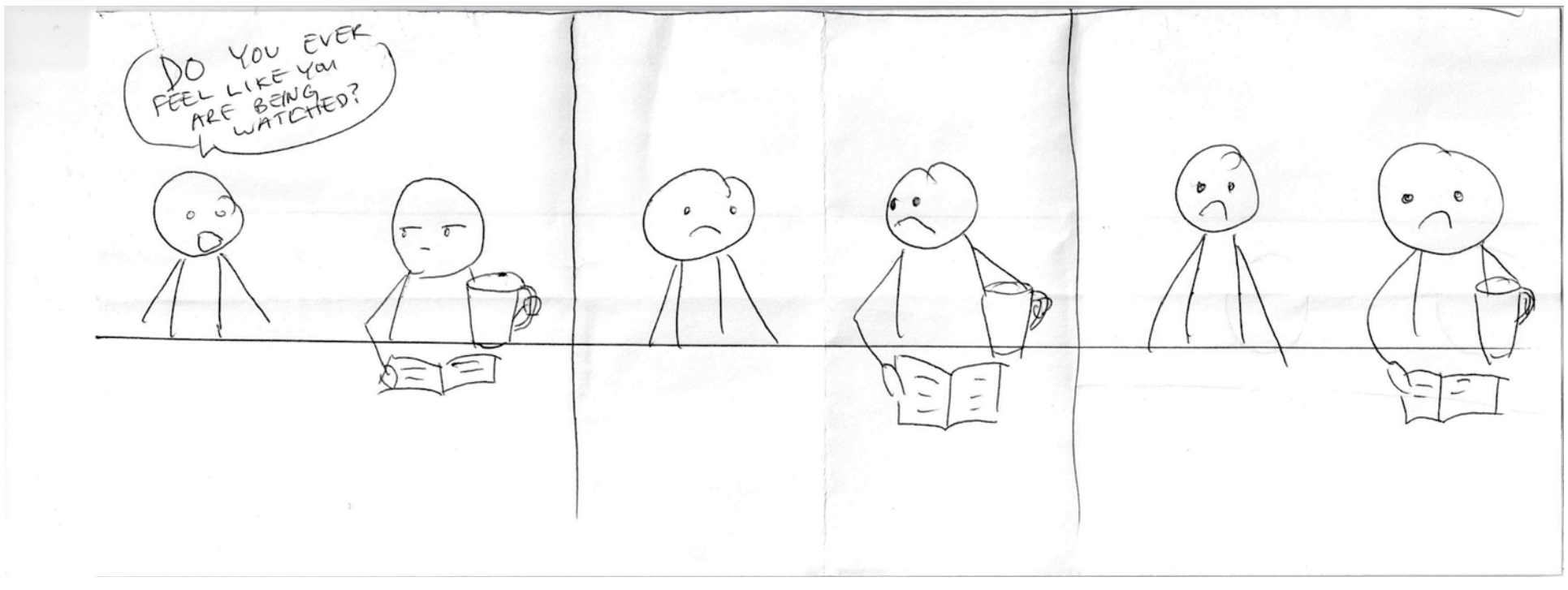
Dr.Dre

Alan Cross

Dr. Dre's Beats headphones sparked a rapid revival in headphones after being largely shafted in favour of ear buds.

Comics

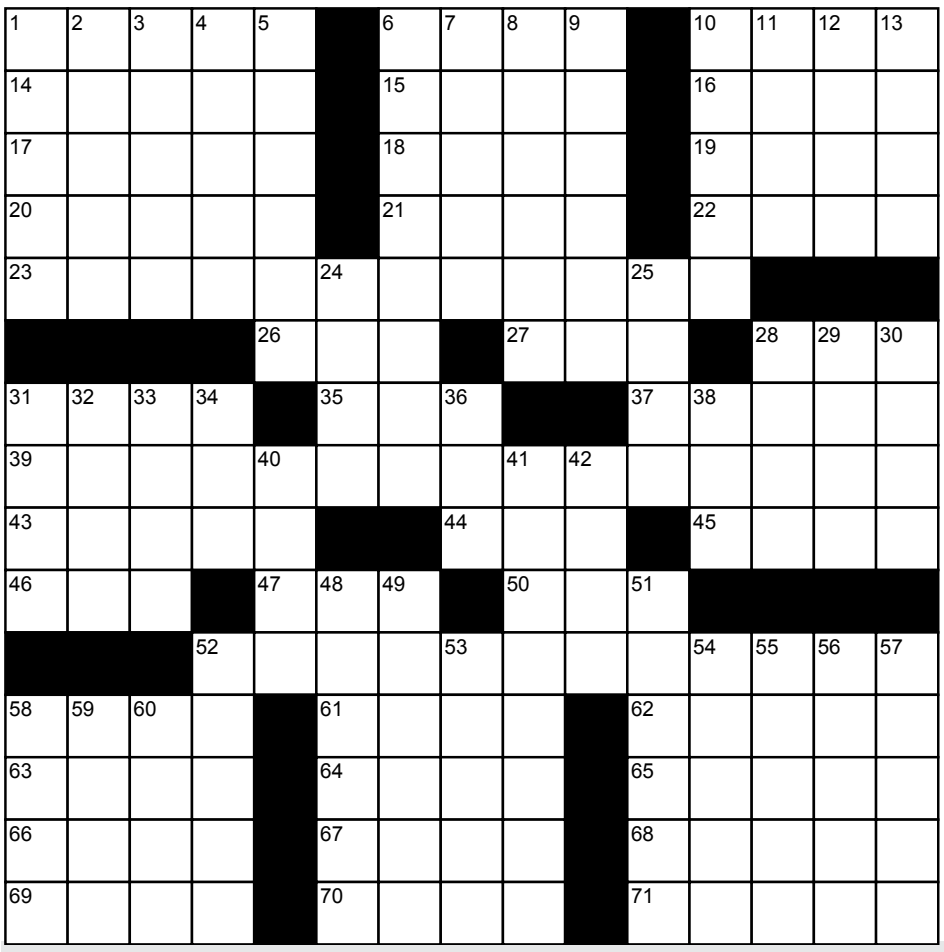
JESSICA KEUNG
2A CIVIL



The Iron Crossword

Canada at War

STUART LINLEY
4A NANOTECHNOLOGY



ACROSS

1 _____, I'm Adam
6 Yawn
10 Wind
14 It's to be remembered
15 Google spreadsheet, Eg. (Acr.)
16 Test
17 Adobe colour app
18 Actor Guiness
19 "Cheers" regular
20 Large African antelope
21 Lion Queen?
22 Murky
23 Failed Canadian assault (WWII)
26 Primary colour
27 Remove (Abbr.)
28 Often, poetically
31 Joint
35 Canoe propeller

37 Sound of a sneeze
39 Juno Beach, Eg.
43 Drug
44 Hearing part
45 Carbonated drink
46 Bitsy
47 Mother (Irish)
50 Energy unit
52 Prime Minister in WWI
58 Ballet skirt
61 Opera solo
62 A model down
63 Particle
64 Mailed
65 Act
66 Dress
67 Otherwise
68 Mended, as cloth
69 Type of butter
70 Colored
71 Dark, bright, etc.

DOWN

1 Smith
2 Winglet
3 _____ Lama
4 Make changes to
5 Barad Dur locale
6 Gramps
7 Presidential candidate Stevenson
8 Pared
9 Exodus
10 Wish granter
11 Nerve fiber
12 Revelry
13 TV award
24 Element
25 Intend
28 Buckeye State
29 Adoring
30 Caesarian garb
31 Understand
32 Uh-uh
33 Canal or Lake
34 Flightless bird
36 Grain
38 Discs
40 Bullets
41 Secreted milk
42 Middle East dweller
48 Humbled
49 Barely
51 Bottom
52 Ballroom dance
53 Middle cycle
54 Alfa
55 Submerge
56 Designer Lauder
57 Requires
58 Labels
59 Salt Lake City state
60 Ripped up

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

Sudoku

#2013-14

ALEXANDER LEE
2A NANOTECHNOLOGY

Easy

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

Medium

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

Hard

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

THE IRON INQUISITION
Alex Lee, 2A Nanotechnology

"What is your greatest strength?"

"Pulling All Nighters"
Nikhil, Joshua, Jeong Won, 2B Mechatronics

"Enomous BICEPS"
Rae Jeong, 1A Mechatronics

"Selfies with the Photographer, and a random guy"
Kelvin Chan, 1A Mechatronics

"Understanding accents."
Angi Luo, 1A Chemical

"Spreading Joy & Happiness"
Kendra White, 2B Chemical

"Thinking outside the Box"
Junsun Wei, 4A Environment and Business