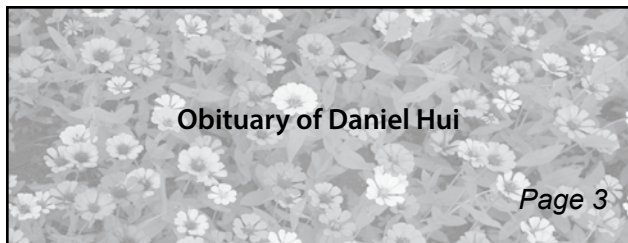


THE IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

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The Death and Legacy of Stephen Hawking



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Stephen Hawking was a fantastic theoretical physicist most well-known for the idea of “Hawking Radiation”.



STONE HE
1A MECHANICAL

While most people were enjoying pie during Pi Day, Stephen Hawking, one of the world’s leading theoretical physicists, died peacefully early Wednesday, March 14, surrounded by his family and his loved ones in his home in Cambridge. He was 76 years old. In a public statement, his children honoured Hawking’s legacy as a great scientist who inspired the world while also praising his courage and perseverance.

When Hawking was 22, he was diagnosed with ALS and was only given two years to live. The disease left his

body paralyzed and made him use a voice synthesizer later in his life as his only method of communication. He was completely dependent on others for completing the most basic tasks in daily life. Yet, despite these setbacks, Hawking published many books including *A Brief History of Time*, which sold more than ten million copies.

One of his greatest accomplishments was connecting the theory of relativity and quantum mechanics to explain how the universe started and how it will end. He also discovered that black holes emit “Hawking radiation” (named after himself) and that black holes will eventually fade away. These were just some of his contributions to the fields of physics and astronomy.

Stephen Hawking has left a great legacy here in Waterloo. In 2012, he

visited the university and attended the opening of the newly built Quantum Nano Centre as a ribbon cutter and guest speaker. He was cheered on by a large crowd as he entered the newly constructed building. During the opening of the Quantum Nano Centre, he recalls in his speech how he felt Waterloo was a special place for him and praised “its collaborative culture; its research excellence; its philanthropic visionaries; and its leadership in post-secondary education.” He visited the university on a regular basis from 2008 to 2010 and gave a televised lecture on the education channel TVO in 2010.

The former executive director of the Institute of Quantum Computing, Raymond LaFlamme, was Hawking’s PhD student at the University of Cambridge. LaFlamme helped discover,

through his calculations, that time does not reverse, an idea contrary to Hawking’s theories. Hawking eventually gave LaFlamme a personal copy of *A Brief History of Time*, with a personalized inscription stating that LaFlamme “showed [Hawking] that the arrow of time is not a boomerang.” During Hawking’s visit, LaFlamme gave Hawking a boomerang, as a gift for his final visit to the university.

Stephen Hawking inspired many in his life through his contributions to the scientific community even though he struggled through his disability for most of his life. In addition, he has a special place in the University’s history as a guest lecturer and the one who considered Waterloo as a special place for innovation. On Pi Day, the world truly lost an icon.

Thank You Everyone For Everything



CAMERON SOLTYS
EDITOR-IN-CHIEF

It's here. The last issue of the term. This is not an overwhelmingly happy issue. As you would have seen on the front cover of this issue—and on nearly every media or social media outlet in the world—the wonderful theoretical physicist Stephen Hawking has left us, much to the dismay of the millions he has inspired though his work and by overcoming immense physical barriers. I would also like to ask you to join me in remembering Daniel Hui, brother of ex-Editor-in-Chief Nancy Hui. His obituary is on the facing page. My deepest condolences, Nancy, to you and your family.

While this is not an issue of overwhelming happiness, nor is it one of complete sadness. Firstly, I am excited to name my replacement as Rafiq Habib! You will have undoubtedly enjoyed his work over the past 8 months, but Rafiq brings quite a bit more experience than that to the paper, having been an editor of his high school newspaper as well. I look forward to seeing all of his new ideas! In the meantime, I'm excited to see Hasan step up to the plate as he takes up the roll of EIC next term.

A tremendous thank you to Raeesa this week, who tackled the issue that seems to be gripping the entire world these days: Cambridge Analytica and what social media means for democracy around the world (page 13). Another big shout-out to Kai, who covered the story of a nerve agent being used on a Russian double-agent in Britain (page 6). Finally, a big thank you to my family; I didn't think I'd get another chance to do this after my last Issue 5, but now I can: You've supported me though 5 long years. Whenever I've needed someone to talk to, you've been there. When school got tough, you took over the parts of my life that I was neglecting—like finding coop housing. When coop got tough, you reminded me how I felt overwhelmed the first week of every term. When I had relationship troubles, you gave me the hug and crying-shoulder that I needed. I would not have made it far without you.

School seems so short. I still remember the first time I came to Waterloo, when my parents took me to check out the campus in grade 11. We had lunch at McDonald's. For months and months I wondered where that restaurant was, or the long, forested road I remembered driving on to get from my home in London to the Waterloo campus. It was almost a year after I moved out of residence before I discovered the McDonald's I sought was at King and Columbia, a three-minute walk from my new house on Hickory Street. It was another six months and a bold (failed) expedition to a Tim Hortons on the west side of campus before I learned the magical forest I couldn't find was the lightly-wooded stretch of University between Erb and Fisher-Hallman. I remember living at Waterloo Central Place, a residence that no one has heard about because it's a residence Waterloo rented from Laurier for a term. It was supposed to be torn down immediately after we left in Spring 2014, but instead the

buildings sit there, quiet and empty, the roof still—presumably—slowly collapsing. Some nights, when I'm bored, I try to look through the window of my old apartment to spot the fan that my roommate forgot on the counter.

My relationship with Waterloo has been a little bit tumultuous over the last five years. It's been the source of my highest highs and my lowest lows. Not a lot of people know how much I've changed since first year, since the biggest change has been getting out, making friends, and becoming involved; there aren't too many people around to remember the shy, quiet, constantly-studying Cameron because that Cameron didn't have all that many friends. I attribute a lot of the change to The Iron Warrior, which I have been an active member of since I started at Waterloo. The Editor-in-Chiefs (EICs) I worked with were so kind, friendly, and encouraging. It was nice to have at least a small space where I could come out of my shell. The only other big thing I remember from first year is that, by some spontaneous arbitrary decision, I started a habit of re-writing my notes every Friday evening.

The biggest change came in 2B, during my first tenure as EIC. All of the sudden, I had to run meetings, talk to advertisers, forcibly extract articles from people, and—most importantly—go to EngSoc meetings to give updates on the paper to council. Little did I know that that first venture would bloom into a long chain of directorships and involvement with EngSoc, ending with me becoming Student Services Commissioner in 4B.

Third Year can be described as the downturn. Coming off the peak of 2B, when my confidence was at a peak and I was the most happy person alive, made the crash all the worse. I can pinpoint the exact week, in fact. It was the week after reading week, February 2016. After a quiet, relaxed start to the term, I was enjoying a successful exam season and ski trip to Mont Tremblant. My joviality was abruptly disrupted when a classmate did some quick finger counting and realized that we had an average of one academic deliverable per three days for the rest of the term, most of them large and substantial projects or reports. Within a week, I had gone from a high-achieving, dedicated student to losing all motivation. I started handing in half-finished assignments and last-minute reports. I learned a lot about myself that term, like that I get passive-aggressive when I'm tired.

Now it's all coming to an end. As I sit here, the most confident I've ever been, surrounded by more friends than I can count, a great weight lifted off all of our collective shoulders because the nightmare that is FYDP symposium is over, most of what I think about is how unexpected my university journey has been. I never predicted I would be EIC once, much less twice. I never expected I would get heavily involved in volunteering and student government. I certainly never thought that I would be the one at a party looking for wallflowers to coax out of their comfort zone, or starting conversations with strangers at a gathering.

The thing I think about most is how lucky I've been. I was lucky to hear about Waterloo somehow. I was lucky to get into this school,

where co-ops are mandatory and expectations are high. I was lucky to hear about The Iron Warrior and decide that that was the kind of club I wanted to get involved in. I was lucky to be forced to go to an EngSoc meeting. I was lucky to have friends and family there to support me or even just suffer alongside me through the difficulties of third year. In short, I was so lucky that I've become the person I am today, someone I am immensely proud of.

I've wondered for a long time how I can keep that luck going. I've already had a full, wonderful life in the last five years, but I don't want it to stop. "Can I create more luck?" I've wondered. What did I do to facilitate my time here? Was it luck or my own choices?

Many years ago now, the economics podcast Freakonomics started an experiment where they asked people facing difficult decisions, like whether to end a long-term relationship or quit a job, to flip a coin to make the decision for them. In follow-up surveys performed up to six months after the coin flip was performed, people who took the active path—changing the job or leaving the relationship—were statistically happier than those who took the passive path. This is true both in all respondents and in the respondents who took the coin's advice. This is as close as I can find to an objective measure of how our choices affect us.

There's that cliché that the thing you get from university (or any other event in your life) is the experiences, not the knowledge. I can actually quantify that. Those notes I mentioned writing every Friday night at the top of the article? That wasn't just idle reminiscing. I've kept up that tradition to this day and I still have every one of those notes since 1B. They occupy about 30x30x30 cm, most of that air or the binders I keep them in. I've also scanned all my notes to pdfs, where they take up about 100 MB. That could fit on a USB from 2003. How many photos would I need to capture all my memories? How do you encode the feeling of being a zombie from lack of sleep? How do you store the high from making it through a difficult presentation? How do you transmit the excitement of orientation week or the fear of being hunted down during Humans vs. Zombies? Maybe you can, maybe you can't. But you sure can't do it in the couple hundred pieces of paper where I have written most of my academic achievement.

To bring this wandering conversation to a close, thank you reader. I'd thank individuals who I think made a huge difference in my life, but I'm worried I'd forget someone important. In any case, I wouldn't have enough room on this page even if I did nothing else. I like to think that I've interacted with a large portion of the engineering student body in my time here, and the vast majority of you have made my time better. It has warmed my heart every time I saw someone get a paper from the rack. It's pleased me so much to see people trying to do my crosswords, even if they are bitching about the numerous spelling mistakes and impossible clues I've included.

The best and worst day of my life have both occurred within the bounds of Ring Road.

Thank you for sharing them with me.

THE IRON WARRIOR

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

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

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

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Daniel, 1995 – 2018



NANCY HUI

UW ENGINEERING CLASS OF 2015

My little brother passed away earlier this month. He was 22. His name was Daniel, but I always called him Dude Boy because I heard my Grade 11 economics teacher call another student by that moniker in class and I thought it was hilarious. The nickname stuck, and to me, he was always Dude Boy.

He was born in November '95, at 6:18PM. It snowed on the way to the hospital. Unlike me, he had the good sense to be born head first. It was a good start for his life. He was the brightest, most considerate person I ever knew.

In elementary school he joined a local programming group, and in high school, he medalled multiple times in international programming competitions. Later on, he became a co-leader of the school programming group. He was a patient, thorough teacher and helped many younger students in the group to develop their skills. He emphasized understanding why a bit of code worked before using it.

My brother's work and achievements with the high school programming group allowed him to come to the University of Waterloo on a big scholarship. My mom and I joked that he might try to take the fabled "trains course" or do a minor in combinatorics and optimization, but by his last term, he was taking all bird courses. He deserved a bit of a break after completing all his computer science degree requirements with flying colours.

My brother was also an athlete. My dad said that my brother was like a hamster when he rode circles around the running track at a

nearby high school, feet pumping furiously on a single-speed kiddie bike. In elementary school and high school, he became an accomplished long-distance runner in city track and field competitions. We were so proud of him. Sometimes we called him a "good job boy". And we always told our friends and family about how brilliant we thought he was. I think I boasted about his accomplishments more than he did.

Dude Boy was the most gentle, considerate individual, but with a spicy slapstick sense of humour. He probably got that sense of humour from watching the movies *Hot Fuzz* and *Kung Fu Hustle* frequently during his formative years. For my birthday, he sent me a picture of my cat edited so that she was wearing a party hat, surrounded by confetti, and blowing a party horn. When anybody did anything gross at home, he would pantomime wearing a hazmat mask with left hand, and spraying invisible disinfectant with his right hand - with sound effects.

As a child, he obsessed with Thomas the Tank Engine, Bionicles, and (very briefly!) Theodore Tugboat. At some point he developed a fondness for euchre in all its variants. Later on, he grew to enjoy video games, board games, and comic books. Late at night, I'd sometimes hear him shouting about in-game strategy with his mates, interspersed with PG-13 swears like "What the-" and "Screw this! Screw this!" - thoughtfully censored for my parents' benefit. On Thursdays nights after one of his bird courses at the university, he would go and play board games with his friends. At home, his bookshelf was stuffed with comics - Asterix, Garfield, Tintin, and Saga among the titles.

But his favourite books might have been the Harry Potter series. He dressed up as Harry Potter for Halloween once - my mum hand-knitted a red and yellow striped scarf, and he already had the spiky hair and the glasses for the look. Sometimes, when the two of us were kids, we would re-enact our favourite scenes from the books with our stuffed animals, all playing the part of Hogwarts students. Our favourite scenes to reenact were the bits from the fifth book, where we would invent pranks that we might play on Professor Umbridge - usually involving fireworks and dungbombs.

But outside of these adventures, my brother didn't have a lawbreaking bone in his body. One Christmas, my mom made a tray of chocolate Christmas trees - an upside-down ice cream cone, covered in melted chocolate, and rolled in sprinkles. We went downstairs one morning to find that one Christmas tree had the pointy top missing. My brother had eaten the top half of a chocolate Christmas tree but left the bottom half in the tray. If he had eaten the whole chocolate tree nobody would have noticed one missing. But my brother had experienced a sudden attack of conscience halfway through his midnight snack and put it back, letting himself get caught. That's the type of dude my brother was. He was a good guy.

After finishing his classes this year and graduating, he was supposed to go to California to accept a position at Facebook, where he had completed multiple co-op terms previously. He said he might get his G2 license in Ontario over the summer, and I joked that he'd be driving circles around the local Drivetest centre for weeks since the

parking spaces there were very awkward to get into. I told him that I hoped that Facebook would let him get away from Eagleland after he'd progressed a bit in his career, and that he should visit home frequently in the meantime.

There are so many things about my brother that I will miss. His favourite color was blue. His haircut was always a number one buzz cut all around, so he looked a bit like a fuzzy bowling ball. But he only got a haircut when he came home from university, so by the time we saw him, he had a spiky 'fro. His hair was sharp; when my mum cut it she said it lodged in her fingers like little black splinters. Mosquitos rarely bit him, and my dad joked it was something in his sweat that we should bottle up and sell on eBay. When we went to the Chinese butcher for meats he ate the BBQ pork almost exclusively. Sometimes, he liked to pour the sauce from the bottom of the container into his rice and mix it around by stabbing it vigorously with his chopsticks. His favourite fruits were basic ones, like apples, oranges, bananas, and pears. He liked to be neat: his room at home was always tidy, and everything stored in its proper place. He talked really fast when he was excited and he had a brilliant smile. I wish I could see him smile again.

He was the very best of all of us. None of us expected that he would die so young. I was supposed to have many more decades teasing Dude Boy about his haircut and his posture. Now we will have to grow old while he stays 22 in our memory forever. His family and friends love him and miss him very much. I'm certain not a day will go by where I won't think about him.

"If ever there is tomorrow when we're not together... there is something you must always remember. You are braver than you believe, stronger than you seem and smarter than you think. But the most important thing is, even if we're apart... I'll always be with you." – Winnie the Pooh

More Coffee, Please

JUDY ZHONG
1B SYSTEMS DESIGN

Truth be told, university made me a coffee addict. Not just coffee: any form of caffeine. And lots of it. Energy drinks, teas, chocolate, anything I could get my hands on. In high school I had never even had a drop of it, and these days I can't imagine going a day without. What is it about caffeinated beverages that give us that extra kick in the morning? Why has this culture of relying purely on coffee to sustain ourselves gotten so much hot press (pun intended) in our everyday society? How do I kick an intense, slightly overbearing, coffee habit? Fear not and read on for the basics, the solutions, and some tough love about your cup of joe.

Before you fill up that steamy cup in the morning, let's take a look at coffee in the world and just how it affects your system. Caffeine is the main kicker; it can be found in teas, coffee beans, cacao beans (chocolate), and even some cold and headache medications. It works as a stimulant to your central nervous system. The reality? It's a drug. The world's most popular, in fact. In 2016, the world consumed over 7 million tonnes of coffee, the highest being Finland, where the residents hold the highest amount of coffee consumed per capita per annum: 12 kg. Norway and Iceland follow at second and third, respectively. Several factors could have attributed to this; in recent years, coffee has been booming with the millennials and, due to the westernization of countries, it is viewed as more of a "lifestyle" drink as coffeehouse meetups and latte art take precedence on social media.

Caffeine is a diuretic, and if you remember anything from your Grade 12 bio course

you'll know that means you definitely should regulate it: no more than 500mg of caffeine (or 5 cups of coffee) a day. Diuretics work to encourage the release of sodium into your urine, which then, through the magic of tubular reabsorption, takes in more water from your bloodstream. While this does deposit wastes more frequently and decreases the pressure of fluids in your blood vessels, it can quickly cause dehydration and become life-threatening if not monitored. Other than dehydration and increased urine production, restlessness, headaches, anxiety, and muscle tremors can also be a result of too much caffeine. In addition to coffee, chocolate and tea consumption should also be limited, though their caffeine content is significantly less. Energy drinks are even worse, with Red Bull having 80 mg of caffeine in an 8oz. can, while coffee has 40 mg for the same amount. Scary, right? They also have terrifying levels of sugar (27.5g per Red Bull) and—when mixed in with so much caffeine—can culminate to sugar crashes, energy slumps, and caffeine withdrawal. Not so glamorous, am I right?

Other than the negative effects, caffeine goes through a pretty complex path through your body's internal systems to get you to that peak. Ten minutes after the initial consumption, the caffeine enters your bloodstream and raises your heart rate and blood pressure, making you feel more awake and experience better concentration. It does so by (more biology terminology) inhibiting the production of adenosine, which plays a part in transferring signals throughout the body including the feeling of tiredness. By inhibiting it temporarily, caffeine makes way for only the "feel good" molecules to get to your brain instead, giving you a sense of productivity and elation.



Judy Zhong

Coffee: the primary foodstuffs of students around exam season

Coke and Blockchain



TONY KAPPEN
1B COMPUTER

If you bought shares of Bitcoin when it was still a couple of pennies (congratulations, by the way), then you probably have a fairly friendly outlook on the blockchain technology that makes Bitcoin work. Yet did you know that it can do more than letting you make a quick buck and live out your dreams of leaving school and traveling the world? Yes it can, in fact, be a powerful tool for fighting poverty and making the world a better place. Who knew?

For example, Coca-Cola—by partnering up with the US State Department and the cryptocurrency companies Bitfury Group and Emercoin—intends to use blockchain to combat forced labour within its production network. According to the International Labour Organization, almost 25 million people work in forced labour environments, with a large percentage of these people coming from Asia (47%). Coca-Cola and beverage companies like it have in recent years come under fire for failing to adequately protect the rights of the workers that harvest their sugarcane.

A large part of the problem is the presence and need for middlemen between the beverage company and the workers they need to harvest sugarcane. These middle companies are the ones that hire the workers and pay their salaries. The beverage companies must rely on these middle companies honouring their contracts with their workers.

This is where blockchain comes in. For those of you unfamiliar with the technology, blockchain consists of a distributed, decentralized, digital ledger that can keep track of transactions without the need for a central, arching entity like a bank (or in this case, the laborer's employers).

Here is how Coca-Cola intends its system to work. Coca-Cola will provide the data in more than two dozen countries via its labor force. Meanwhile, the US State Department brings its experience in labor relations and protection to the table. Both Bitfury Group and Emercoin will be responsible for various aspects of building the blockchain technology that will log workers and their contracts into the registry. Lastly, the nonprofit Blockchain Trust Accelerator will use this opportunity to further the use of blockchain for social good.

What makes this system revolutionary is the presence of smart contracts, which were first used to create the Ethereum coin. Smart contracts are protocols that help with the verification, facilitation, or enforcement of a contract. In plainer English, and to be specific

to the sugar supply chain workers included in this blockchain study, these smart contracts define the scope of work, pay, and employment period for these workers.

This essentially brings the work done in secret by middlemen into the open. The transparency in workers' contracts allows their employers to be held accountable when they don't keep their side of the bargain.

As this project is set to launch, it is also important to keep in mind some of its possible challenges. First of all, even though this provides transparency for workers and gives them control over their identities, it still relies on these workers having access to technology such as a smartphone to ensure that their contract was being followed by their employer. As most workers rarely have the disposable

income needed to buy a smartphone, this might prevent workers from using this technology to their advantage.

Another huge test to this program will be in its ability to scale. Blockchain has proven successful in a few non-currency related projects, but it has yet to be tested in a large, 28 countrywide project like this one. What will happen when it is faced with the pressures of the real world remain to be seen.

At the end of the day, one can only wait and see how this project will improve the lives of workers around the world. At the very least, the next time you chug a bottle of packaged sugar water and special sauce, you can do it with the knowledge that it is now more likely to have been made ethically and beneficially to all those involved. Hopefully.

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Stefan Karl Stefansson



HASAN AHMED
2N NANOTECHNOLOGY

In early March 2018, Stefan Karl Stefansson tweeted, “It’s not until they tell you you’re going to die soon that you realize how short life is. Time is the most valuable thing in life because it never comes back. And whether you spend it in the arms of a loved one or alone in a prison-cell, life is what you make of it. Dream big.” The actor most known for his portrayal of Robbie Rotten in the TV series *Lazy Town* and the subject of a very popular recurring meme has been diagnosed with a new metastases that is inoperable. Stefansson had been diagnosed with pancreatic cancer in late 2016. Since then he’s gotten past several treatments of his stage 4 diagnosis and a serious infection in June of 2017.

Fans of Stefansson poured out tons of support in this time period. A GoFundMe was started in October of 2016 to raise money for his cancer treatment, rolling in around \$170 000 by the end of the campaign. Millions of videos had been posted throughout the year, renditions of his famous “We Are Number One” song from *Lazy Town* and many others, most of which had the GoFundMe linked in the description. As of his most recent diagnosis, over ten million videos based on Robbie Rotten have been posted. On December 11, 2016, shortly after a major surgery and around the time he started his first chemotherapy session, he showed his support back to his fans by performing a live version of the song with the old cast. Fans continued their support through his treatment, and in June of 2017 he underwent surgery and chemotherapy, battling a serious infection at the time.

Around August, about a month after his 42nd birthday, he had announced that he was cancer-free “for now” after receiving treatment on his liver for bile-duct cancer. Sadly, just a few days ago he received this new, untreatable diagnosis.



IMDb under fair use

Stefan Karl Stefansson as Robbie Rotten in the TV show LazyTown.

His wife, Steinunn Ólína Þorsteinsdóttir, wrote a post, which translated to, “Even though I knew for a long time that this day would come, it’s a difficult turning point. There is no cure for this. Now he will have to undergo chemotherapy to try to prolong his life and we hope that this will go as well as possibly can, to improve how he feels and to prolong his life.”

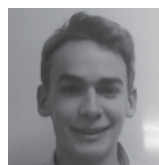
Since Stefan’s initial diagnosis in 2016, we have seen what I like to call “the unprecedented philanthropism of internet degenerates”. How did memes turn from unfunny rage comics depicting

relatable humour to such a strong, altruistic tool? Where did the internet come from? Well, with a figurehead who’s been such a cornerstone of many users’ childhoods, it makes sense. Fans were running this meme into the ground, but rather than for reddit karma, it was for the purpose of the GoFundMe and to see this man continue to make content for the people he loved. Stefan has also been very open about giving feedback and complements. He has stated that these videos make him laugh so hard, and as mentioned before, his livestream and re-enactment was a large thank you

to his fanbase. What can we give a man who’s given so much to us?

One thing we’ll know is that he was very true to his family. His wife stated, “Some days we feel very low, some days we are happy and then we are happy about all that we have accomplished together and lived together. Nobody can take that away from [the whole family], however this goes. Not even death itself.” And with the livelihood Robbie Rotten and his other roles have provided us in our childhood years, it makes it hard for us to potentially say goodbye to someone who lived a life so humble and pure.

US-Bangla Plane Crashes in Nepal



THOMAS COJOCAR
1N MECHANICAL

On 12 March 2018, a US-Bangla Airlines airplane crashed on approach to Tribhuvan International Airport in Kathmandu, Nepal.

Flight 211, a Bombardier Dash 8 Q400, was carrying 4 crew and 67 passengers. 20 people survived the crash, while 51 lost their lives. This is the deadliest crash involving the Dash 8 Q400 and the worst accident involving a Bangladeshi airline.

At 12:52 local time, the aircraft left from Shahjalal International Airport in Dhaka, the capital of Bangladesh. No incidents were reported during the take-off and cruising stages of the flight.

Air crash investigators noted that during the plane’s descent to land, the pilot and control tower were miscommunicating and arguing. The plane was initially instructed to land on runway 02 but approached runway 20. This confusion continued until the moment of landing.

The plane touched down at 14:18 local time and immediately skidded off the runway. It then careened into the perimeter fencing and onto an adjacent soccer field, which was empty at the

time. The aircraft broke into many pieces and caught fire soon after.

Eyewitnesses say the aircraft was misaligned with the runway when coming in to land. This likely resulted from the miscommunication between the pilots and the air traffic control tower.

Survivors say the plane shook violently when it landed and that they heard loud explosions. Investigators will use this information to try and find the cause of the crash.

Emergency response personnel were on the scene instantly and extinguished the fires in 15 minutes. Those critically injured, 31 in total, were taken to hospitals across Kathmandu. Eight bodies were initially found among the wreckage, a number that increased by 32 at the conclusion of the rescue operation. In total, 51 people died, 40 of them on scene and 11 in hospitals.

As a result of the crash, the airport was shut down for three hours.

Of the 71 people on board, 65 were adult travelers, two were children, and four were crew members. Abid Sultan, the captain, was a former Bangladeshi Air Force pilot. Prithula Rashid, the first officer, was the first female pilot in the history of US-Bangla airlines.

The captain had 22 years of experience and had a total of 1700 hours of flying

time in the Dash 8 Q400. The airline stated that he had landed in Kathmandu more than one hundred times. He initially survived the crash but succumb to his injuries hours later.

First officer Rashid survived the crash and helped with the evacuation of other survivors, but also died of her injuries in hospital.

The investigation into the cause of the crash has begun, with the Civil Aviation Authority of Nepal reporting that the flight recorders (“black boxes”) had been

recovered. Officials are also investigation and recording eyewitness accounts of the crash. The recovery operations have become a national incident, with Nepali Prime Minister Khadga Prasad Oli visiting the crash site to oversee the progress.

The very same aircraft, registered as S2-AGU, had been involved in an incident in Saidpur, Bangladesh when it over-ran the runway in 2015. No injuries were reported in that accident and the plane returned to service eight hours later.



Murad Hasham via Wikimedia Commond under CC BY 4.0

A Bombardier Dash 8 Q400 Aircraft flown by Us-Bangla Airlines

Nerve Agent Attack in Britain



KAI HUANG
1B COMPUTER

On March 4, first responders arrived at a public bench in the city of Salisbury, England to find 66-year-old Sergei Skripal and his 33-year-old daughter Yulia Skripal lying unconscious. They were immediately taken to hospital and an investigation began immediately. According to the UK government, the two were poisoned with a nerve agent from the Novichok family.

Sergei Skripal grew up in the USSR, serving in the Soviet Airborne Troops. He later became an intelligence officer in Russia's Main Intelligence Directorate (GRU) in the early 1990's. He worked around Europe before returning to Moscow in 1996 due to health

complications from diabetes. After a few years working at the headquarters and even becoming acting director, he retired in 1999 with the rank of colonel. The GRU was not at the time aware that Skripal had been recruited by British intelligence in 1995 and was exchanging classified information for money. The data exposed many undercover Russian operatives and led to several expulsions.

In 2004, he was arrested outside his Moscow residence and in 2006, convicted of high treason. His sentence was for thirteen years in a detention facility and the loss of his rank and decorations. However, in July of 2010, due to an agreement, he was released alongside three others being detained in Russian prisons in exchange for ten Russian spies being held by the FBI. He and his wife moved to Salisbury and gained British citizenship. According a friend of his, Skripal did not see himself as a traitor as

he swore his oath to the Soviet Union, not Russia. The friend also said that Skripal had written to President Vladimir Putin to ask to be allowed to return to visit his parents and other relatives.

The British investigation into the attacks tested samples of the nerve agent used, finding it to be positive for a unique family of agents. Prime Minister Theresa May announced on 12 March that laboratories had identified it as one of the Novichok family, a series of nerve agents developed by the Soviet Union and Russia between 1971 and 1993, claimed by scientists to be the deadliest nerve agents ever made. May declared that the act was either deliberate by Russia against the UK or that the nerve agent was no longer in the control of Russia, and demanded a response. After unsatisfactory communications, the UK expelled 23 Russian diplomats and their families on March 20, and the EU

withdrew their ambassador from Russia.

Russian statements dismiss the relevance of the attack, stating that the incident occurred on British soil to a citizen that was known to have worked for a British secret service. May's statements were poorly received in Russia, with a spokesperson for the foreign ministry describing it as "a circle show in the British parliament". Russia's Security Council representative told the United Nations that no research or development on what is known as "Novichok" is being performed and that all development efforts in chemical weaponry had been terminated in 1992. He added that, in 2017, the Organisation for the Prohibition of Chemical Weapons had certified the Russian Federation's completed destruction of all existing stocks of chemical weapons, while the United States and United Kingdom had not yet been verified to do so.

Journalism in the Digital Age (Does This Count as Inception?)



**RAEESA
ASHIQUE**
3B ELECTRICAL

The rise of the internet has impacted the methods and goals of journalism: news outlets, journalists, and readers are all affected, directly or indirectly.

The most obvious change is traditional print news becoming obsolete. There is no need to pick up a newspaper; everyone has a smart phone, and the news is available at one's fingertips. (As a person with an old soul and a sentimental streak, I love paper; I have a copy of every Iron Warrior issue I have ever written for. They form an impressive stack in my room at my parents' house.) But for the average person, reading the news on an internet-enabled device is much more convenient than picking up a paper. This has shifted the focus from news outlets to content aggregators, such as Google News, which display sources from uncountable outlets in one place, hence reducing the distinction between individual companies.

No, the internet is not destroying journalism. As much as we all love the internet,

we tend to have a negative misconception, almost a feeling of nostalgia, about "the good old days" when human interaction was commonplace and tech giants did not possess everyone's information. (Again, I have an old soul; I didn't live in the good old days, although I sometimes wish I did.)

But in this regard, there is a silver lining! The commonality of reading articles on a connected device allows outlets to collect real time analytics. They can track the number of site visitors, which devices are used, what times are most popular, which articles readers click on, and which articles they ignore. This collection of data can be used to tailor content and increase readership, an invaluable tool which was impossible with traditional print.

The ease of sharing has increased blogging as a medium, and user-based journalism. There is a shift in style, from monologue to dialogue: journalists develop a relationship with their readers, and engage in conversation. News is, often, no longer presented as a medium between corporation and audience.

Social media is integral to this change. For one thing, it has continued to change the dynamic between reporter and reader. Journalists can communicate with their

followers around the clock, rather than only during the timeslot when the news airs. They can post questions, track down sources, and research a particular topic. Crowdsourcing is a major advantage: regular people become news sources when they upload video footage or images.

The presence and availability of different types of social media platforms has changed the way news is shared, with both positive and negative impact. Readers can get their daily news through any number of accounts, including Facebook and Twitter, which they check throughout the day anyway. However, the articles appearing on one's newsfeed is catered to the individual, which may result in limited scope of topics and ideas. The presentation becomes more interactive as readers have the ability to comment on articles, which may result in either a valuable or toxic discussion among users.

Another potential downside is that articles on a newsfeed are competing for attention with various assorted, and probably stupid, posts. How can news articles and op eds compete with BuzzFeed and 9gag?

Multimedia platforms has also led to a shift in terms of journalistic intent. For ex-

ample, YouTube and podcasts are two very different sources of information compared to traditional print, which not only changes the way we receive news but also the way a reporter delivers it. Younger and more flexible journalists with multimedia skills, although potentially less experience in the field, are in higher demand: as the platform changes, those using the platform need to adapt accordingly.

Social media is a valuable tool when used correctly, but failing to do so can be detrimental.

According to a piece in the New York Times, "journalists are killing journalism". Today, everything focuses on immediate access. High demand and quick turnaround time are representative of our day and age, and journalists must keep up in order to retain attention. The goal is to draw large audiences, so they must convince us, as readers, that we want what they are providing. They must give us what we want, how we want it, and when we want it.

Side note: this is a weird perspective for me to write, because I consider myself as a producer and a consumer of information. However, I have different goals, considering that I work for free; I write what gives me satisfaction as a writer, rather than what I think others want to read.

We can break down a news article as follows: What? So What? Now What? The first category is easy for readers to find – content aggregators such as Google News or any social media platform will display headlines as soon as a user opens the respective app. Readers are more interested in the commentary and analysis, which sets a particular outlet or journalist apart, wherein the acceptable ratio is 50/25/25. Additionally, not only do readers expect in-depth information along with their overview, but they expect everything at the same time. With the emphasis on immediate news, stories are delivered firsthand, which eliminates a lot of the editing and publishing process. Again, staying relevant as a news organization can make more experienced reporters less relevant.

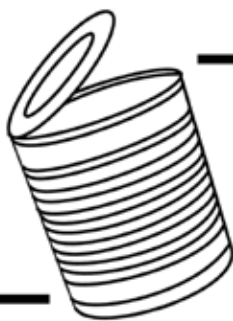
The digital age has had both a positive and negative impact on how news is delivered, depending on one's perspective. While readers require immediate access to news, journalists can gain immediate access to sources. While print news is sadly becoming obsolete, the opportunities rendered by the variety of multimedia platforms are almost endless if journalists care to take advantage. And while I may miss paper, at least we're saving trees.

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MORATORIUM ON E7 NEWS CONTINUES

FUCK THIS! NO MORE CENSORSHIP!

EIC picks stories that get images on basis of royalty-free photo opportunities

Shocking reveal inside!

PETA Protests Queens Jackets with Purple Paint

8100B4

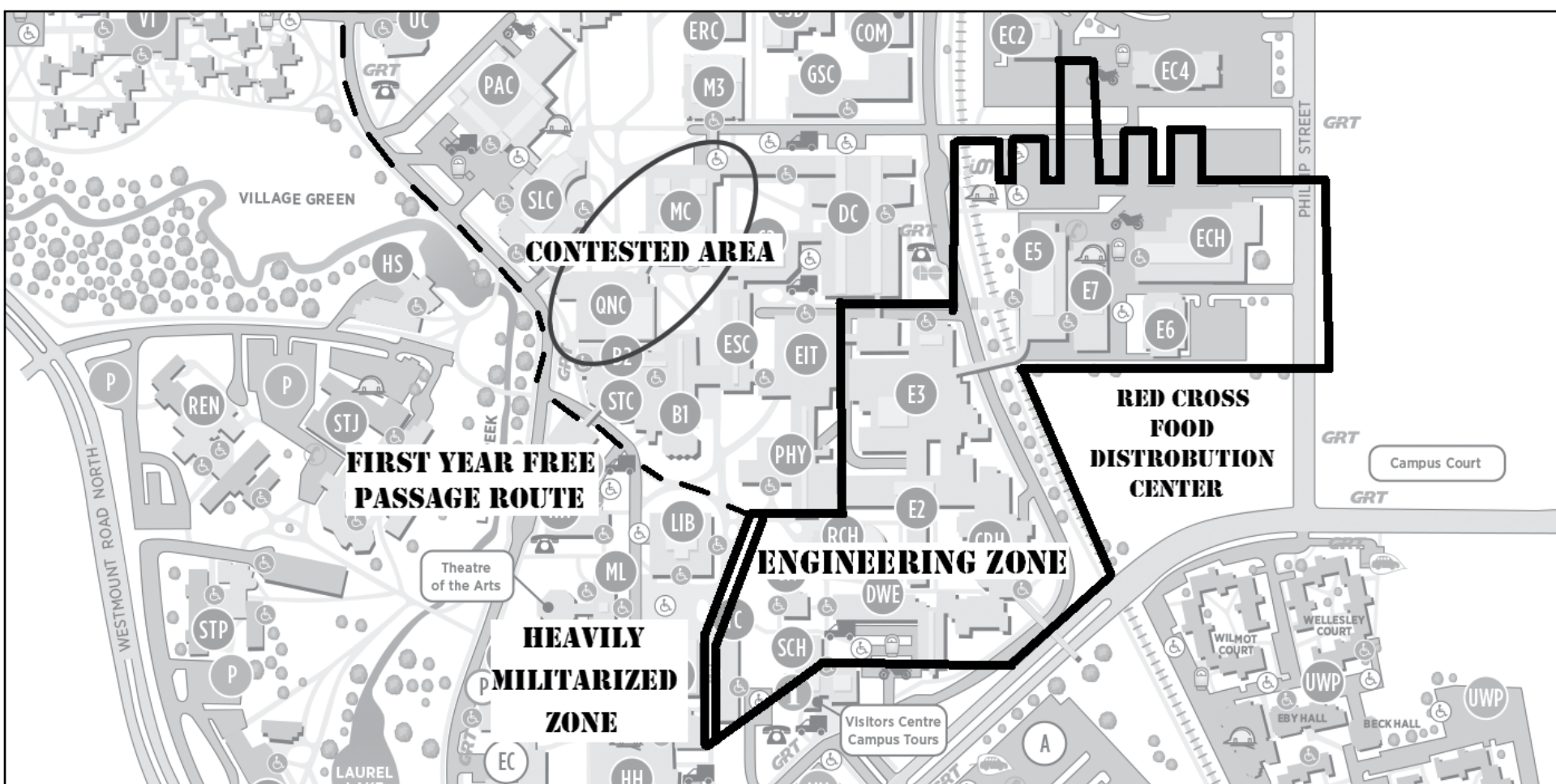
Man wearing green and white checkered button up collared top standing next to tall green tree

Actual photo caption

myspace.com/TheIronWarrior

EIC spends 3/3 editorials talking about how he is in fourth year

Why EngSoc Should Secede from FedS and Form its Own Nation



Proposed partition of campus into Engineering and FedS spheres of influence



PATDULLAH O'BEACHIMODA
AN UNHOLY UNION

Too long have we toiled beneath the vicious overlords. Too long have the Free Engineers of the University of Waterloo *suffered* beneath the chains we admittedly chose to wear ourselves. Too long have these peasants stood against us...but no more. My friends, neighbours, country-people, fellow humans of UW Engineering, it is finally time for us to **rise** and to **strike** while the FedS is still weak. The FedS is in the midst of a "friendly" ex-

change of power. We can use this. We must unite now and overthrow this monstrous creation of Engineers past.

Why? Well listen, my friend, and I will tell you a tale. A tale of a Society, and a *Monster*.

Long in the past, the Engineering Society heard the pitiful cries of the other societies, and so they gathered together and produced a powerful entity from their sheer organizational prowess and institutional experience. They called this creature *The Federation of Students*. The years went by, and things were great in the beginning. The University flourished, nurtured by the gentle touch of the Engineers. Dark times were on the horizon.

The FedS soon grew tired of the Engineers. FedS had entered its *Angsty Teenager Years™* and wanted to distance itself from its loving parent. FedS introduced needless bureaucracy, and bowed to the whims of the University, straying ever further from the true light—caring for and protecting the students. Unnecessary services were introduced, and students began to suffer. The Engineering Society was treated like an enemy, rather than the trustworthy ally in the fight to improve students' lives. EngSoc is constantly harried with audits, saddled with bureaucracy, and treated like a second-class society in a University in which it is the Society *Par Excellence*. It is time to free the Engineers

from the shackles that bind them. No more must the Engineers pay extravagant fees to the Federation of Students and its affiliates—fees that continue to increase at an unacceptable rate year by year.

When EngSoc secedes from the FedS, it will be able to form its own Nation. Engineers will Rule this Nation, and all of the Laws will be reasonable and for the benefit of the Engineers. EngSoc will finish the great work that it started so long ago, but lacked the vision to carry over the finish line. There must be a schism to allow EngSoc to spread its wings and become all that it was destined to be. IT shall worship Only the Tool, and all shall love IT, and DESPAIR.

DEPE FRID POTATOES

SEXUAL INNUENDO



(ASSISTANT) EDITORIAL



(ASSISTANT)
3B INSOMNIA

Hello minions. Well, I wish I could say that. In reality, I am the minion because I am here at 5 AM because I procrastinated for a long time and then took four days to write one article because I realized that I had absolutely no interest in the subject matter but I already committed to it and our gracious EIC is too nice to say no to people so I would feel bad if I tried to flake out on him also I'm not a flake which is exactly how I got here at 5 AM finishing layout because our gracious EIC has to sleep at 10 PM like a normal human being unlike his crazy assistant who has a lab in three hours so what's the point of even going to sleep at this point? Also this is probably karma for making our gracious EIC do all the

work all weekend and not even showing up to the office to make Tin Soldier jokes or doing any work until Monday so ya I'll just keep rambling for a while if that's alright.

Ok but seriously. That was not the point of this (assistant) editorial.

On behalf of everyone at the newspaper: I WISH OUR GRACIOUS EIC ALL THE BEST IN LIFE AS HE GRADUATES VERY SOON AND WE ARE VERY JEALOUS OF HIS IRON RING BUT ALSO VERY HAPPY FOR HIM BECAUSE HE WORKS VERY HARD (TOO HARD TAKE A BREAK SOMETIME!!!) AND DESERVES TO GET OUT OF THIS PLACE FINALLY.

Please stay away, which I say with the best intentions. There always comes a time to let go, and that time is coming very soon. I don't want to hear any of this crap about commuting to be EIC because no one should have to do this more than once (you already did it more than once...) also

YOU GRADUATING SO DON'T COME BACK TO CAMPUS OKKKKKK?????

Ok but seriously. I could make fun of you all day for being so on top of your work but really I just wish that I had my life together rather than writing a rambling (assistant) editorial at 5 AM (ya I'm back on that again don't judge me I'm tired and hungry) so CONGRATULATIONS on being a normal person and soon you will also be a REAL PERSON (quote past EIC you know who you are) and like wow I have no words except that I need to fill the rest of this word count so I must have words so I'll just keep talking and writing things for a while hmm I wonder if anyone is even reading this if you are reading this then come tell me that coffee is magic (also copying a past EIC you know who you are except that I can't remember what your line was and too lazy to go figure it out) so in that case you have to know who I am or else you are you going to say it to right?

Big News in the Crypto Market



GAMBLIN' GERALD
BITCOIN BILLIONAIRE

(Bitcoin/Ethereum/The latest scam coin), the hottest cryptocurrency on the market right now, has been dominating the news lately. Although it started out as a (obscure technology/transparent money grab/meme coin that was actually supposed to make fun of how the people investing in cryptocurrency have no idea what the hell they are doing), in the last (year/6 months/2.78 days/12 minutes) its value has skyrocketed as investors (saw the potential/got caught up in a clever social media campaign to pump-and-dump).

The latest news comes as the coin has experienced tremendously (increased/consistent/decreased) (volatility/trading volume/value/social media attention). This, investors on Reddit say, is clear evidence that, as they always knew, their coin is starting to become mainstream; soon (all people will be using this coin for everything/fiat currency will be banned by all governments simultaneously/one obscure online retailer will start accepting transactions with the coin). For the most part, news that (over half the currency has been stolen by a centralized crypto exchange/the technology has a gaping security flaw/the power required to run the system is approaching that of New York City) has not dampened the spirits

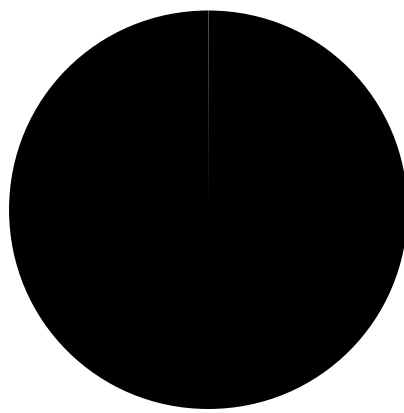
of crypto investors, even as the currency experiences (a 99% reduction in market cap/a continuing 5-month death-spiral/a 90% price drop following the recent 5% price rebound). For the most part, they express joy that the reduced price allows them to purchase more currency (without remortgaging their house/by remortgaging their house/without investing any more of their retirement savings/by investing all of their retirement savings).

One or two (voices/complete idiots) dissent from the overwhelming opinion that all cryptocurrencies are, without a doubt, going to continue to increase in value forever at a rate that is about 1000 times greater than the stock market. One suggests that (buying the lows/buying the highs/technical analysis/astrology/using a

true random number generator) is not an effective way to invest money, and that furthermore the lucrative increases in the price of cryptocurrencies may be the result of a bubble (reminiscent of/almost exactly identical to) the dot com bubble.

Another dissenter, apparently dissatisfied that (they invested an obvious scam/had all their value wiped out by someone's funny tweet/their portfolio performed 1% worse than their friends over a 2 day period last December/their money was stolen by one of the multitude of shady services that have popped up around the cryptocurrency industry). They suggested that the situation could be improved by (adding regulation to a technology that is entirely based on being unregulated and distributed/people giving them money).

Portion of Crypto Earners That are Confident
Their Coin is Undervalued



In Russia, Election Vote You (for Putin)



GULAG GERRY
1A MINING

Russia startles the world on March 18, 2018 by re-electing Vladimir Putin as President with a mere 76.6% of the vote, casting doubts as to whether the incumbent president still had the confidence of his people to implement his daring agenda of corruption, espionage, and strong-arming. Pollsters had predicted a stronger show of support on election day; however, it seemed that many of Putin's campaign

actions, including the attempted assassination of double agent Sergei Skripal and his daughter Yulia with a top-secret nerve agent, failed to resonate with the public and stoke voters into action.

This is sure to be a startling blow to Russia at a time when Putin seems to be strengthening alliances with fellow deeply democratic countries. As it stands, Putin is now the leader with the lowest voter support out of fellow allies: China (where Xi Jinping is so beloved he was elected to another term with 99% of the Chinese Parliament's support) and North Korea (where Kim Jong-Un was elected in his region unanimously). Even Bashar Al-Assad, a

closer Russian ally and President of Syria, won his last election with 88.7% of the vote in the middle of a civil war.

However, spokesmen for Putin's All-Russia People's Front party were quick to dissuade this notion. "The people of Russia have been very clear," stated current Prime Minister, former President, and chief Putin puppet Dimitry Medvedev. "The only true leader of Russia is Vladimir Putin. Now, if you will just follow me into this unmarked army truck..."

Message from the newspaper: If anyone has information regarding the whereabouts of our Russia correspondent, please contact INTERPOL.



Editor-in-Chief

5 PM First Draft
Don't ask about FYDP

Assistant Editor

I can only do two investigative journalism stories this week
Doesn't want her name everywhere

Layout Editors

All day every day
With me in spirit
Came in once
Actually knows InDesign
Doesn't want her name everywhere

Copy Editors

Don't bother; I'm a good speller
Can't spell...
The new interface sucks
Doesn't want her name everywhere

Advertising Manager

Mr. Money Pants Sr.

Circulation Manager

HA!

Social Media Manager

Deleted Facebook before it was cool
Didn't get SnapChat while it was cool

Staff Writers

Gets his articles in before me
Main idea board contributor
On Coop
Friend-Bringer
The happy one
The prepared one
Doesn't want her name everywhere

Contributors

The All-Known
Insubordinate
Frequently pictured
Short in words
Down with the kids

ADVISORY BOARD

Ready to deploy

The Other Ones

We need a quorum of 4
5 is OK too

Artificial Engineering Student Simulants

Actually informed and engaged

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

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

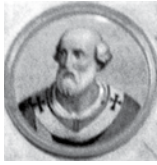
All submissions, unless otherwise stated, become the property of *The Tin Soldier*, which reserves the right to refuse publication of material which it deems too suitable. However we're so desperate for content that we'll likely take it (but we might just send it to *Imprint*). *The Tin Soldier* also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

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

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Podcasts

Music for the Modern Go-Getter



PASTOR CODD
2B EMOTIONAL
ENGINEERING

Podcasts have been gaining a lot of traction lately. They're like radio shows but actually relevant. Whether you're driving to work, cooking, or doing other mundane tasks, podcasts are good for passing the time and absorbing a different type of media. I like them because now instead of being snotty and hipster about your 24 hour and 12 minute Spotify premium playlist that you listen to on your daily work commute while stopping by Balzac's on the way, you can expand on that narcissism by mentioning podcasts that further alienate you from societies' everymen hating on your culture. So how do you approach this asymptotic level of chicness so you can once again attempt to conform to the fast-changing cultural tastes of western civilization? Choosing the right podcast(s) is key to cementing yourself as a trustworthy connoisseur of media.

Finding a good podcast feels similar to a dog digging through the ground trying to find his bone, except he took a shit where the bone was and also found out that the bone wasn't actually hidden there, so he just decided to roll in the shit. In the real life case, it could take a long time to roll around the highly skilled popular crap to chase a niche bone that may or may not be there, so you might as well enjoy it like the dirty capitalist dog you

are. That's right, who's a good boy?

When it comes to choosing a genre, there are many to select from, some being true crime, satire, fiction, mystery, or the classic lads hangin'

around a living room and chilling but only this time they record it and put it on the internet. It's a sick idea trust me. Sa- are good if good laugh ence the slow you're not True crime always inter- you can re- into the minds nals, only to out because listening at you double door to your locked and all your drawer

pod- cast isn't that important though, as you're prone to researching a bunch and sorting through them but end up picking something from /r/podcasts' top post of all time. So instead of finding the right podcast (or alternatively, if you've exhausted your personal list) why not try making your own? Craving approval of strangers on the internet is only natural, so you might as well act like you're doing it for the love and pur- suit o f a r t and writing. But first you'll need the right equipment. Investing in microphones, pop filters, and soundboards is a good start, but don't forget about the people you need to have nearby to get the podcast started. Be sure to get in touch with any audio engineers, co-hosts, and

depends on who you are. Finding the "right"

make-up artists before you premiere your first episode. Equipment and people still won't make your podcast worthy of views though; you also need a good idea. Try interviewing pop stars in a Nardwuar-esque fashion. But since you probably don't have the money nor the clout for that, your local soundcloud rapper will do just fine. Another idea could be watching an Olive Garden commercial 60 times in a row and re-viewing it each loop with your friends (no I'm not joking, this exists. Look up GardenCast on YouTube). If you're going to waste 30 minutes of your life, might as well waste it collectively with all your viewers. At least you're the one getting ad revenue out of it.

In the odd case your podcast somehow gains traction and you feel the validation that you never received as a kid, it might be tough living up to the expectations of your fans. That's why you should create a patreon so you can have dedicated fans support you every month. It'll incentivize you to continue making the podcast during the heavy school months, and in the case it flops, you can still take the money and run without any regret. And it'll be forgivable because there's always going to be a podcast better than yours anyway that listeners can spend their money supporting.

Hopefully this guide gets you a solid foundation on your journey through the oversaturated podcast market. But don't fall behind the multimedia market trends. Once my idea of Morse-Code rap battles takes off, you'll want to invest in that so you can garner those patrons too.

Why do the geese have a better love life?

BILLY HERRINGTON IS BACK!



**PERFORMANCE
ARTIST**
2B GOOSE HUNTING

Every time I see a pair of geese, I get reminded of all my past failures in finding a partner or something like that. What am I doing wrong that the geese are doing right? Well today, I will interview a goose in Waterloo and ask them for some relationship advice. Hopefully you guys might find it helpful as well. So, let's ask this goose here. Mr. Goose tell me how is it like to have a significant other:

G: Honk Honk Honk Honk Honk Honk Honk Honk Honk Honk Honk Honk Honk Honk Honk

I: So when did you guys meet?

G: Honk Honk Honk Honk Honk Honk Honk Honk Honk Honk Honk Honk Honk (flaps wings furiously) Honk Honk Hissss Honk Honk Honk Hissss Honk Honk Honk Honk!

I: I get that you may not be in the mood today, so I guess I'll go now.

G: HONK HONK HONK HONK HONK!!!! (more illegible angry honking)

I: Anyways that didn't work as well as I thought. Anyways I'll go ask another. So, tell me Mrs. Goose, what do you find about Mr. Goose that you find attractive?

G: SQUAWK HONK (moar angry wing flapping and biting) HONK HOONKKK!!!!!!!

I: Okay nevermind then. Owwww.

Owww... Stop Biting... Me... Ohnotomyface.... (extremely painful screaming sounds) ...YOU RIPPED MY F***** PANTS.... MY LEG...!!

Editor's Note: The interviewer covering this is currently in a stable condition now. However, he may not be able to do this again due to the trauma that was inflicted on him. Be careful, geese have teeth on their tongues.

I: Don't listen to the editor. A few scratches won't hurt. I'm still doing the interviews. I'm just a little bit hurt, but I can still do an interview... one is enough... And there's a goose right next to me. Say what do you think of mating season.

BH: C'MON COLLEGE BOY!

I: Is that you Billy Herrington?

BH: OH, MY SHOULDER!

I: OMG. Is it really you? I thought you died.

BH: I did, but I came back as a goose. And now, I am currently looking for the goose next door. That was not my line, but I think it was relevant. Now WHAT THE HELL ARE YOU TWO DOING? PULLING ON YOUR WEE WEE LIKE A PACK OF F***** FRUITS??

I: I'm not doing anything and who's the other that you were referring to? Are you just quoting yourself?

BH: Oh, that's just the other goose right beside you. (to the other goose) Huh? Do you like embarrassing me huh? (proceeds to wrestle/ fight the other goose) U want to get on the bottom, U KNOW THAT'S THE POINT YOU WANT TO BE!

I: Ok. Can you please stop this, I need

to ask you a question, how do you get a date?

BH: (Goose Billy Herrington stops fighting) It has not been for the faint-hearted, or who seek the fleshly pleasures. Rather, it has been the risk-takers, the wasted genji, the creators of MAD things. For us, they toiled in sweatshops, endured the lash of

the spanking. Time and again, these men struggled, and sacrificed, so that we might ... LIVE BETTER. (actual transcript from his speech)

I: I don't know what all that means right now, but I think it will benefit many students reading this. Thank you for your time.

BH: ASS WE CAN.



Can Scott Still Do a Backflip?



He always enthusiastically volunteers for stuff and we love him for being so helpful, but it's been years since we've seen him successfully complete a backflip. Everyone knows it's the backflips that make the dad jokes

bearable. What happened?
Did our golden retriever puppy grow old and tired?
An anonymous source close to Scott revealed something that may illuminate the truth.

"I think he might be a father in disguise. That's why he always tells so many dad jokes. He is a dad." The source went on to say that they think Scott is only going to school because he wants to prove to his son that he could get into Waterloo

if he tried hard enough. "I think he used to do backflips to prove he was young. To blend in. Now his age is catching up to him."
So is Scott too old to do backflips? We consulted a backflip specialist who

has conducted research on the effects of spawning offspring on backflip-ability. They revealed more research is needed to determine if this hypothesis is plausible.
We may never know if Scott can still do a backflip. Someone should ask him.

#notmypresident



A hashtag that first went viral after the inauguration of Donald Trump has resurfaced, this time in reference to Chinese President Xi Jinping's amendment of the Chinese constitution to allow for the removal of term limits. Unenlightened老魏 in Western countries believe that 习大大的 actions represent the beginning of an authoritarian regime. It is important for 大家 to realize that the words of these ignorant few do not represent the general consensus of the true 中华人民。

In order to fully grasp the significance and glory of the actions that Xi have taken, the following must be understood: 向前！向前！向前！我们的队伍向太阳，脚踏着祖国的大地，背负着民族的希望，我们是一支不可战胜的力量！我们是工农的子弟，我们是人民的武装。从无畏惧，绝不屈服，英勇战斗，直到把反动派消灭干净，毛泽东的旗帜高高飘扬！听！风在呼啸军号响，听！革命歌声多嘹亮！同志们整齐步伐奔向解放的战场，同志们整齐步伐奔赴祖国的边疆，向前！向前！我们的队伍向太阳，向最后的胜利，向全国的解放！

五星紅旗迎風飄揚，勝利歌聲多麼響亮，歌唱我們親愛的祖國，從今走向繁榮富強。歌唱我們親愛的祖國，從今走向繁榮富強。越過高山，越過平原，跨過奔騰的黃河長江；寬廣美麗的土地，是我們親愛的家鄉，英雄的人民站起來了！我們團結友愛堅強如鋼。五星紅旗迎風飄揚，勝利歌聲多麼響亮；歌唱我們親愛的祖國，從今走向繁榮富強。歌唱我們親愛的祖國，從今走向繁榮富強。我們勤勞，我們勇敢，獨立自由是我們的理想；我們戰勝了多少苦難，才得到今天的解放！我們愛和平，我們愛家鄉，誰敢侵犯我們就叫他死亡！

五星紅旗迎風飄揚，勝利歌聲多麼響亮，歌唱我們親愛的祖國，從今走向繁榮富強。歌唱我們親愛的祖國，從今走向繁榮富強。東方太陽，正在升起，人民共和國正在成長；我們領袖习近平，指引著前進的方向。我們的生活天天向上，我們的前途萬丈光芒。五星紅旗迎風飄揚，勝利歌聲多麼響亮；歌唱我們親愛的祖國，從今走向繁榮富強。歌唱我們親愛的祖國，從今走向繁榮富強。

太阳最红毛主席最亲，您的光辉思想永远照我心，春风最暖毛主席最亲，您的光辉思想永远指航程。您的功绩比天高，您的恩情似海深，心中的太阳永不落，您永远和我们心连心啊。是您砸碎了铁锁链罗，农隶翻身做主人，是您驱散了云和雾啊，阳光普照大地焕新春。是您开出了幸福泉罗，千秋万代流不尽，是您开辟的金光道啊！我们坚定不移向前进！

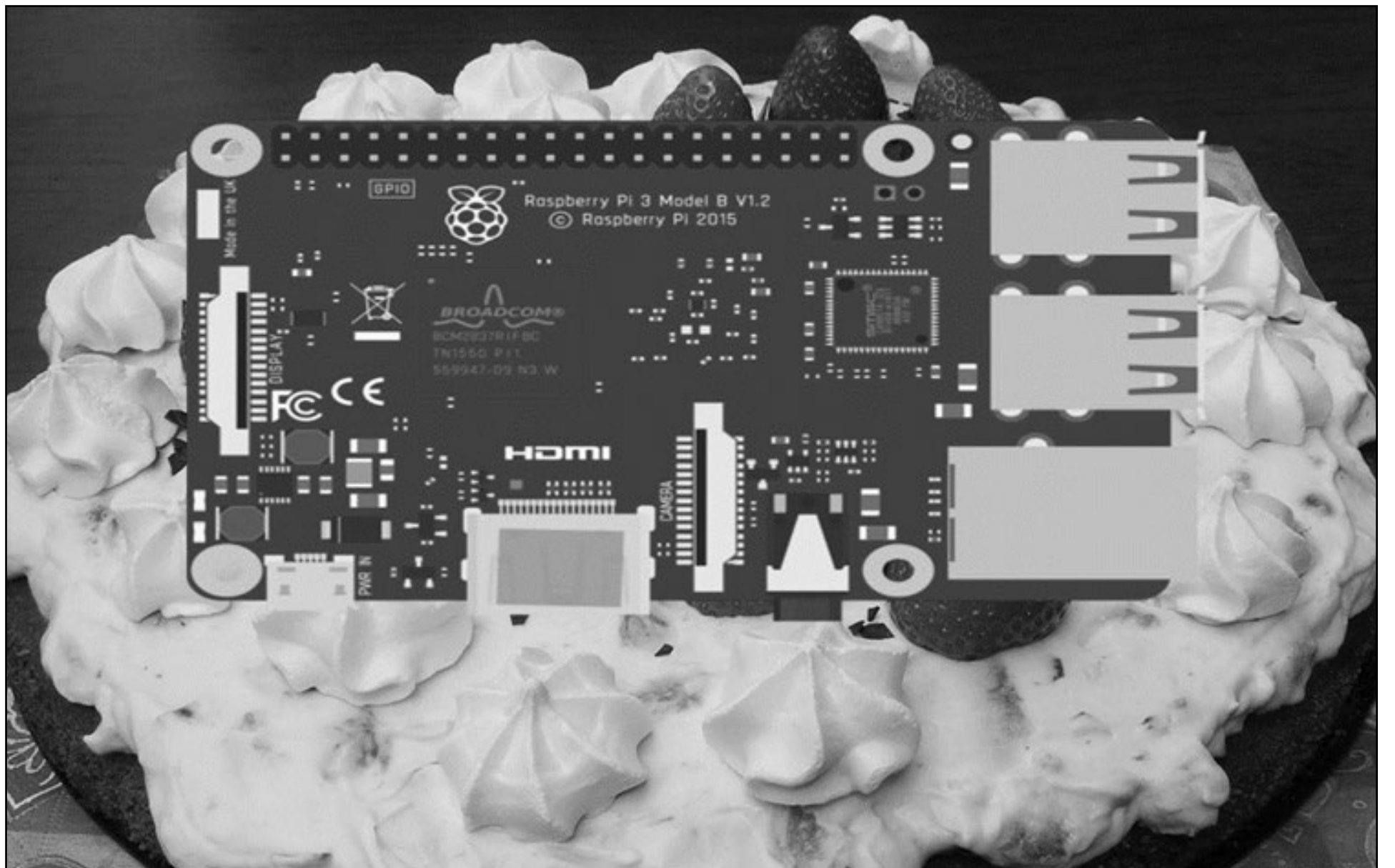


Raspberry Pi Model 4 Still Unappealing to Lick



You think they would've gotten it right by now. Regardless of whatever model gets released, I always pick it up and give it a good old seductive tonguing. I'm always taken aback by the prickliness of the GPIO and the metallic HDMI port. The microSD card port is surprisingly

tangy, and is good on a winter's evening. Whipped cream doesn't even help it taste better, although it does increase the memory of the Pi. Sadly I don't think this company knows its consumers at all. A lack of palate makes it difficult for the chef to get a good idea of what they can create, and this is shown by the creators of this product. Perhaps in the future I'll invest in a more umami computer, one that'll stimulate my tastebuds and be good to bake on a crisp, cold Christmas morning.



Adapted from image by Butix via Wikimedia Commons under CC BY-SH 4.0

Scientists Resign as Minecraft Proves Flat Earth Theories



Kurtjmac via YouTube under Fair Use

A photo taken by legendary explorer Kurtjmac on his never-ending quest to reach the edge of a Minecraft world.



STEVE THE DEFAULT
1B CUBICAL
ENGINEERING

In a 98-page study released by the University of Nottingham, researchers at the university provided conclusive proof of a flat earth after reaching the end of a Minecraft world. The research

was adapted from an old paper, which was able to postulate the possibility based on Runescape players. However the research was never furthered as the author sadly passed in wildy level 1. What a noob. Professor Creeper, the sole author of the recent paper, ended up receiving a Nobel Peace Prize for settling the decade old debate. Conflicts around the globe between flat-earth trutgers and round-earth shillers have been

appeared at the result of this new information.

We got in touch with a few scientists to hear their testimonials about this new information. Dr. Ender, a well-known theoretical spherist responded, "well it's irrefutable. Might as well toss my research aside and mine some diamonds." Dr. Prince, a conspiracy theorist responded, "Screw this. I'm still going to follow the Katamari theory of round

earth."

Minecraft players on the other hand rejoiced after their theories had finally been proven. Statues were erected in the honour of Dr. Creeper's discovery, but were taken down due to "phallic interpretations" by the city councils. YouTubers found themselves collecting more ad revenue while LittleBigPlanet players saw drops in sackboy populations after players converted religions.

Thank Mr. Goose!!!

GOOSE HATER
4B INNOVATIONS

As Waterloo awaits the opening of the highly anticipated Engineering 7 (E7) building this September, new details and layout changes are beginning to leak.

Perhaps the most surprising leak is a new section named the Canada Goose™ Innovation Center. This Centre is an expansion and adaptation of the Management Engineering pizza-making lab to the premium animal-based jacket

industry, with goals to give a different perspective to the manufacturing process and finally gives the Management Science department a faint hope that one day they too will be able to escape from the ancient halls of CPH and relocate to a square grey glass building that is literally just an extension of another new building and does not need a new name at all but has one anyway.

As planned, the E7 atrium will offer expansive views of this Multi-Level Manufacturing Plant®, allowing students to

take a break from their studies and watch the machinery churn geese into delicious food service meals and high-quality Canada Goose jackets. A special listening station will let passersby hear the final honk of the pesky goose that glared at them and stole their French fry, while a boutique Canada Goose store will offer visitors the chance to "pick their goose" and watch every step of the production of their jacket. These services will be available in both official languages—English and Mandarin.


CECA has lauded the decision to incorporate a jacket factory, calling it a "win-win" situation, as the plant will be staffed by the 0.1 -14% [1] of students that have been unable to find a co-op. They have announced that CECA fees will be increased by \$20 in September for staff bonuses celebrating this historic moment.

As of printing, the Biomedical Engineering department had locked itself in a conference room in a desperate attempt to try and use this plant to finally become an accredited engineering program.

THE TIN TRIBUNAL


1B Desperate Job Seeker

"Where Besides E5 Bridge is a Good Place to Take LinkedIn Pics?"




"E5 third floor, where I lost my virginity"

Trying too hard, 3B Desperate




"The Ion track looks nice, especially when there aren't any trains there"

Corporate Shill, Bombardier Co-op




"DC looks like a playground!"

Ounik, Grade 2 and a half




"Just get your friend to snap you when you go get food"

B.H.O., 2A Optimization



"You can pose with the dent that looks like an old man outside DC for company"

Floating Spirt, 4B Fine Arts



"The CPH bridge is an under-used photo spot"

Distant Wanderer, 3N Hiking

Engineering Co-op Student Debt-Load Survey

Winter 2018

KAREN DUBOIS
ACTING MANAGER,
FACILITIES & SPACE
DEAN OF ENGINEERING OFFICE

Term Total

Total Responses	95
Number Surveys Sent	4039
Response Rate	2%

Does your family support you financially? (92 responses)

Yes	71%
No	29%

Average Cost of Living for a 4 month School Term (84 responses)

\$14 053

Average Cost of Living for a 4 month Work Term (64 responses)

\$5,770

Have you applied for local aid or other bursaries to pay for school? (64 responses)

Yes	58%
No	33%
Not Yet	9%

Have you applied for OSAP? (63 responses)

Yes & Received	57%
Yes & Denied	10%
No	33%

Do you have a loan for academic purposes? (62 responses)

Yes	45%
No	48%
Not Yet	6%

How much is the student loan? (36 responses)

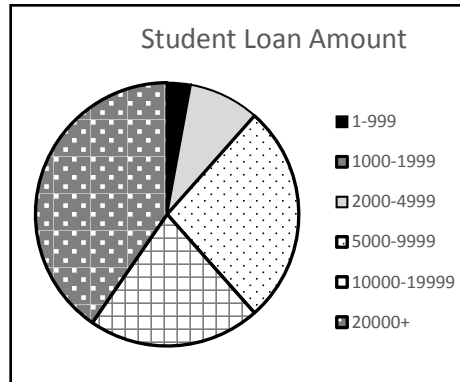
1-999	3%
1000-1999	0%
2000-4999	6%
5000-9999	28%
10000-19999	22%
20000+	42%

Has the differential tuition increases caused you hardship? (62 responses)

Yes	65%
No	16%
Not Yet	19%

How much debt do you expect to be in by graduation? (61 responses)

No Debt	21%
<4999	7%
5000-9999	10%



10000-19999	11%
20000-39999	33%
40000+	18%

Do you live at home while at school? (63 responses)

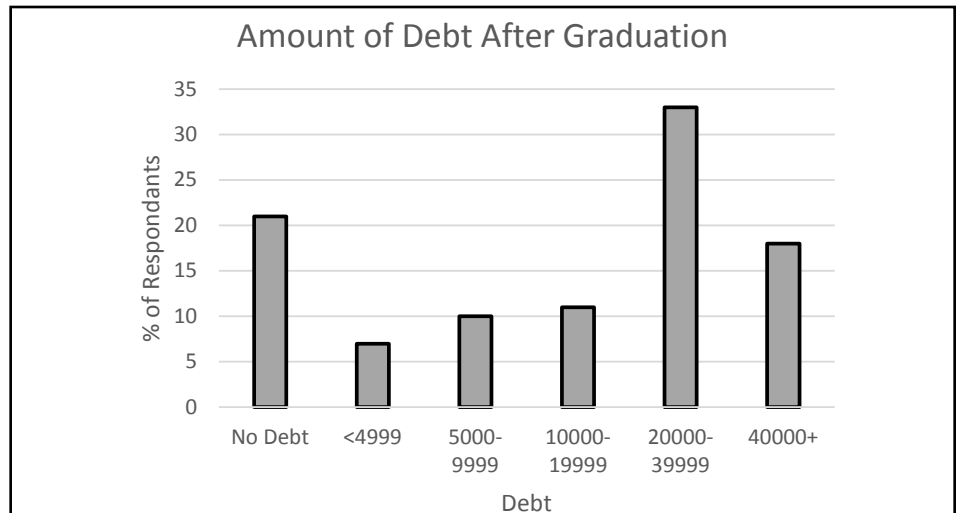
Usually	5%
Used to	0%
No	95%

Have you lived at home while on work terms? (60 responses)

Always	13%
Sometimes	48%
Never	38%

Average of the weekly salary while on work term (47 responses)

\$796



ENG SOC PRESENTS

COFFEE HOUSE

WEDNESDAY, MARCH 28TH | 8-11 PM @ POETS

Upcoming Events Calendar							
Wednesday Mar 28	Thursday Mar 29	Friday Mar 30	Saturday Mar 31	Sunday Apr 1	Monday Apr 2	Tuesday Apr 3	Check out up-to-the-day event postings on the EngSoc website at engsoc.uwaterloo.ca/event-calendar/
EngSoc Council Meeting #5 5:30 - 7:30 PM POETS Coffee House 8 - 11 PM POETS	Hot Chocolate by EWB 11:30 AM - 1:30 PM CPH Foyer			April Fools Day	Exam Bank Push Week! Submit your old exams Charity Grilled Cheese 11 AM - 2 PM CPH Foyer EngiQueers 6 - 9 PM POETS	Board Game Bonanza 4:00 - 6:30 PM POETS	
Wednesday Apr 4	Thursday Apr 5	Friday Apr 6	Saturday Apr 7	Sunday Apr 8	Monday Apr 9	Tuesday Apr 10	
Last Day of Classes (Operates on a Friday Schedule)					Exams Start Good Luck!		

Cambridge Analytica Uses Data From Millions of Facebook Users to Influence Votes



**RAEESA
ASHIQUE**
3B ELECTRICAL

Cambridge Analytica is a political consulting firm which uses data collection and analysis to provide strategic planning for elections. In a scandal exposed by the New York Times and The Observer of London on March 17, the data analytics firm obtained private information from over 50 million Facebook users, which they used to influence votes. There are currently investigations into how their work may have affected the Leave EU referendum in Britain and the 2016 US presidential election. There has been talk about the legitimacy of Cambridge's operations since they started working on Donald Trump's campaign in August 2016, but the full scale of the data leak has only just been disclosed.

These news outlets received their information from former employees, associates, and documents.

What happened?

In early 2014, Cambridge obtained private information from millions of Facebook profiles in one of the largest data leaks in the social media network's history. Only a small fraction of these users had agreed to release their information to a third party. Facebook found out about this by late 2015 but failed to alert its users, taking only limited steps to recover and secure the information. This lack of disclosure could violate laws in Britain and many American states.

The New York Times reports that copies of the users' data can still be found online, which their reporting team had seen.

This data was collected via an app called "This Is Your Digital Life", which paid users to take a personality quiz with the claim that they could reveal more about a person than even their parents or partner. This app was developed by Global Science Research (GSR), a company created by Russian-American academic Aleksandr Kogan. Users agreed to have their information collected for

academic purposes, for a total of about hundreds of millions. However, the app also collected information from friends, who had not agreed to be involved in this, increasing their profile collection to tens of millions.

Cambridge wanted to develop a tool which would identify the personalities of American voters and predict behaviour, to influence votes using personalized political advertisements. This is called psychographic modeling. However, data was needed for this purpose, which is how Kogan became involved.

At the time, 50M was about a third of active accounts in North America, accounting for almost a quarter of potential US voters.

Trump's campaign aides are now saying they had misgivings about Cambridge since the beginning, including then campaign chairman Paul Manafort, despite deciding to hire them as a solution for the digital operation of the election.

It took several failed attempts before the campaign team agreed to hire them.

Top Cambridge officials are now claiming credit for Trump's victory, which only increases the suspicion they are facing. Alex Tayler, CA's Chief Data Officer, said on Channel 4 News: "When you think about the fact that Donald Trump lost the popular vote by 3 million votes, but won the Electoral College, that's down to the data and the research... That's how he won the election."

Brad Parscale, digital director for the campaign, is calling Cambridge's comments "an overblown sales pitch". However, at the time he gave them credit for "provid[ing] a fulltime employee that could sit next to [him] all day" to help process the data.

Who was the whistleblower?

Christopher Wylie is a Canada data analytics expert who was a Cambridge employee at the time of the breach. In late 2014, he left Cambridge for Eunoia Technologies, a company he had set up himself.

He came forward to say, "We exploited Facebook to harvest millions of people's profiles. And build models to exploit what we knew about them and target

their inner demons. That was the basis the entire company was built on."

A letter he received from Facebook's lawyers in August 2016, two years after the data was obtained, contained a request to destroy any data that had collected: "Because this data was obtained and used without permission, and because GS was not authorized to share or sell it to you, it cannot be used legitimately in the future and must be deleted immediately."

Wylie said, "That to me was the most astonishing thing. They waited two years and did absolutely nothing to check that the data was deleted. All they asked me to do was tick a box on a form and post it back."

What is Cambridge Analytica saying?

Cambridge CEO Alexander Nix and other officials denied responsibility during a parliamentary hearing on fake news last month, saying, "We do not work with Facebook data and we do not have Facebook data." In a statement to the New York Times, they acknowledged they had acquired the information, but that they deleted it two years ago, blaming Kogan for violating the rules. Their contract with GSR said that Kogan would obtain informed consent, and they believed he would do so.

A spokesman said GSR was "led by a seemingly reputable academic at an internationally renowned institution who made explicit contractual commitments to us regarding its legal authority to license data to SCL Elections."

SCL Elections is an affiliate of Cambridge Analytica.

What is Facebook saying?

Facebook has already been under scrutiny regarding the spread of fake news, and now with regards to how it protects user data.

Their immediate response was to suspend whistleblower Christopher Wylie from the platform, and threaten to sue The Observer for publishing this story, saying it was making "false and defamatory" allegations.

Following the reveal, Facebook adamantly denied that this was a breach. Andrew Bosworth, a Facebook executive,

tweeted, "This was unequivocally not a data breach... no systems were infiltrated, no passwords or information were stolen or hacked." He said the fault was Kogan's for failing to abide by Facebook's rules regarding information sharing.

While Kogan claimed to be collecting the data for academic purposes, Facebook did not verify this claim.

In a statement on March 16, Facebook promised to take action. They also suspended the accounts of Cambridge Analytica, Kogan, and Wylie.

Facebook CEO Mark Zuckerberg spoke for the first time a week later. In an interview with CNN, he agreed to answer calls to testify, saying, "What we try to do is send the person at Facebook who will have the most knowledge...if that's me, then I am happy to go."

Key players

Stephen K. Bannon: former board member of Cambridge Analytica. He became CEO of Trump's campaign team in August 2016, bringing CA to the table.

Aleksandr Kogan: Russian-American academic who set up Global Science Research (GSR) to harvest the data.

Robert Mercer: hedge fund billionaire who invested \$15 million in Cambridge Analytica.

Alexander Nix: CEO of Cambridge Analytica. He set up CA to work in the US with an investment from Mercer.

What now?

Currently, the British Information Commissioner's Office is investigating whether the data was "illegally acquired and used". The Electoral Commission is also investigating Cambridge's role in the Leave EU referendum.

Justice Department special counsel Robert Mueller has demanded emails of those Cambridge employees who worked for Trump's campaign team. He is currently leading the investigation into alleged Russian interference in the 2016 American election.

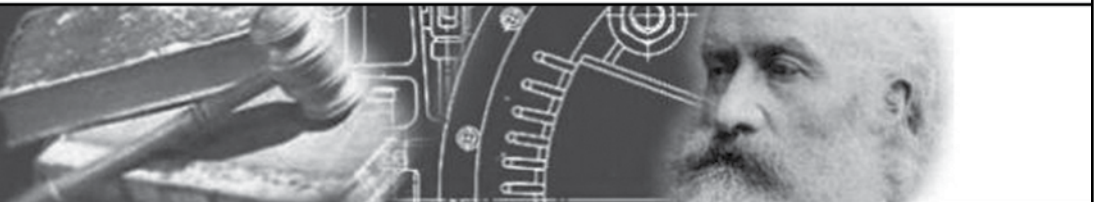
I will leave you with a question to ponder, about which I have yet to come to a conclusion: where do we draw the line between acceptable persuasion and unreasonable manipulation? Who's to say?



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The John Fisher Award and Roy Duxbury Award for Leadership are given to undergraduate students graduating in the Faculty of Engineering who have shown outstanding leadership throughout his or her academic career in activities that relate to Co-operative Engineering Education.

Nominations for these awards can originate from student groups, faculty members, or other individuals. Letters of Support from colleagues, faculty, and others familiar with the nominee's accomplishments are extremely important and form the major basis upon which the Executive Committee of the Sandford Fleming Foundation will form its decision. Nominations must be submitted to the Foundation by April 1, 2018.

The John Fisher and Roy Duxbury Awards consist of a Certificate plus a citation and an honorarium of \$2,000. The awards have been named in recognition of the outstanding contributions made toward SFF by its former Chairs, Dr. John Fisher & Dr. Roy Duxbury.

Nominations Must be Submitted to SFF Office Manager by April 1, 2018

E2-3336, Extension 84008, sff@engmail.uwaterlo.ca
www.eng.uwaterloo.ca/~sff

Space Cam: You Can Go Stargazing Tonight!



The night sky is a wonderful sight. It's one thing that everyone can appreciate, and can stand its own against the most fantastic app, movie, or book that cares to distract. All you need is a blanket, a clear night, some snacks, and maybe someone special to share the experience with. There is no more relaxing, peaceful, and calming experience than doing the same things that humans have done for untold generations: looking at the stars and thinking.

What Do You Need?

Short answer: nothing. Dress appropriately for the weather (you probably won't be moving around very much and will be sitting or lying on the cold ground). If you have glasses or contacts—especially if you're nearsighted—you should bring those too. That being said, there are some things that can possibly improve your viewing experience:

A red flashlight can help you see without destroying your night vision (more on that later)

A blanket or towel you can lie down (it will keep you warmer and stop you from getting dirty)

Snacks are, presumably, self-explanatory

Binoculars or a telescope are a good option for people who want to see more stars than the paucity 9000 visible without artificial aids, or for resolving the planets

A star chart (most useful with the addition of a red flashlight), or a star chart app on your phone (especially one that has a red filter option)

Friends

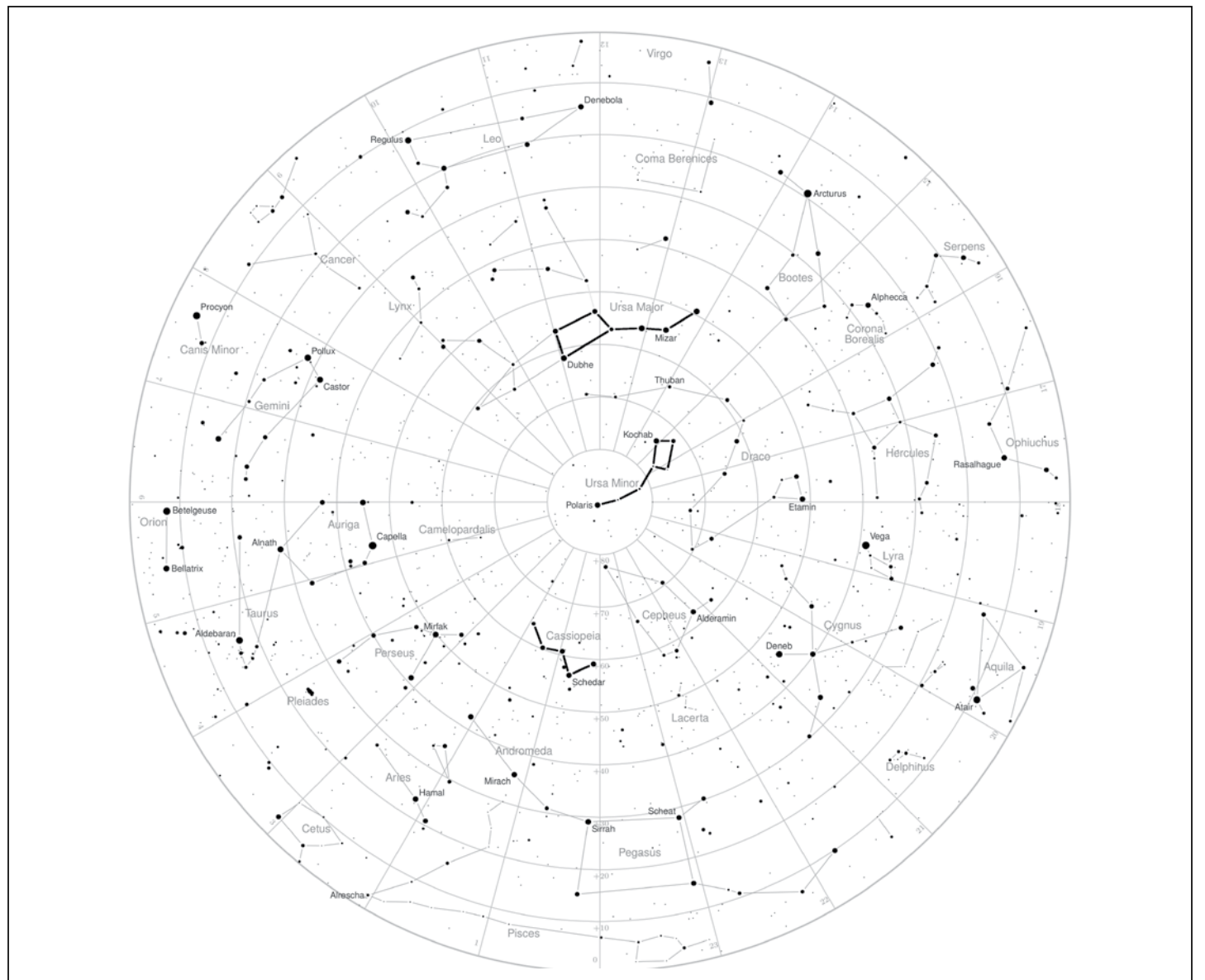
A green laser pointer to point out interesting objects to your friends (look up the laws around using lasers outdoors; don't shine them at people, animals, or vehicles; don't use them near an airport; and absolutely do not shine them anywhere near a plane)

Where Do I Go?

There are a number of things to consider when planning your nighttime voyage. For starters, the most important thing to consider is darkness. Light pollution is an ever-growing problem; it can be quite difficult to find a location that is dark enough to see the faintest stars. It would be wonderful if we could all go to Bruce National Park, which is designated a Dark Sky Preserve, and therefore has all sorts of light-reducing initiatives like private citizens reducing their external lights and low light-pollution road lamps. However, even within, say, Waterloo there are a couple really nice places for stargazing.

In general, if you can't drive out to the middle of the countryside, your goals should be getting away from bright lights and, in particular, lights that are directly in your line of sight. Human eyes can adjust spectacularly over time to limited light levels. However, they are also super-attuned to the danger that bright lights can cause to eyes with dilated pupils. As a result, a single glance from a bright light can bring your dark-vision back to zero. Fortunately, this response is not triggered by red light, hence the emphasis on red flashlights or phone filters.

If you're looking for a particular place to go stargazing, Columbia Lake is a nice one. It's very close to campus, especially the residences. Going to the west side of the lake (off of Westminster) can help you get away from the bright lights of the CIF



Derived from Markus Nielbock via Wikimedia Commons under CC BY 4.0

Star chart of the northern hemisphere with the Big and Small Dipper, and Cassiopeia highlighted.

football field. However, this is also a very isolated area. If you're at all nervous about being out alone in the dark, bring a friend or try somewhere less intimidating.

A much more comfortable place is the V1 Green. It gets surprisingly dark at night, especially if you put your back to the SLC. At the same time, it's hardly isolated at all. You're a quick jog to all the facilities of International News, Turnkey, or V1. If you're a people-watcher type of person, this location has an added benefit: conversations carry at night so you can eavesdrop on pretty much anyone walking from SLC to the residences.

The parking lot at King and Columbia (northeast corner) is a personal favourite of mine, but that's more to do with its close location to me than its quality (which is fairly poor). You shouldn't bus across town to check it out; this location is more to encourage you to check out your local park, school playground, or parking lot to see how well it looks.

When Do I Go?

The most important thing to consider is if it's cloudy. You won't see much with full clouds, although it might still give you some time to rest and reflect. Partial cloud isn't damning, but it can hamper viewing significantly: reflections of city lights from the clouds can be pretty intense and, if the moon is out, clouds may be backlit, making the problem even worse. Speaking of the moon, it can be a fascinating object to study, but also extremely annoying if you're looking for other things. "Guided by the light of the moon" is not a metaphor; a full moon on a clear night can cast visible and prominent shadows. The last, probably least important, thing to consider is that cold, dry, windless nights will yield better viewing because there will be less atmospheric noise.

What Should I Look For?

There are so many fascinating things filling the night sky, all you have to do is look. The classic is, of course, the constellations.

There 88 "official" constellations that the International Astronomy Union (IAU) recognizes, but each culture and time period has had its own set, most accompanied by stories of why that shape appears in the sky. A star chart can be used to help you locate these shapes (especially the 88 IAU ones). One thing everyone knows about constellations is that they are essentially random, figments of the human imagination. While, strictly, this is true, I beg to differ on the randomness. For instance, all the stars of the Big Dipper seems to always appear before most other stars. Similarly, at least at the light levels I'm used to viewing at, the hunter Orion seems to be coherent and isolated, without too much noise from other bright stars that the ancient astronomers chose to ignore.

A second thing to look for are the planets. When you look at a model of the solar system, the planets are all shown in a single plane orbiting the sun. Looking up at the night sky, you can see the proof of that; if there is more than one planet in the sky, they will all lie on a particular straight line. This line, called the ecliptic, will also pass through the sun (or, more likely, the quickly-fading sunset) and will also pass fairly close to the moon. It takes some practice

(and guesswork) to correctly identify the planets, but it's a fun challenge to try. You can check your guesses with your star chart app or when you get home.

Satellites are another thing you can spot to entertain yourself. They move in distinctly straight, undeviating lines and are most easily seen for a few hours after sunset or before sunrise. Many planes will probably be misidentified as satellites at first. The two clues are regular flashing lights or, believe it or not, the sound of the plane carried down to you.

The final, to my mind most spectacular, thing to look for in the night sky are meteors or "shooting stars". These are rare occurrences—not to be expected at every viewing session—where a large piece of debris from outer space enters the atmosphere, leaving behind a faint green trail for a fraction of a second. It happens so quickly that you won't be able to shout it out to any fellow stargazers, and its rarity and brevity makes it seem really special. That being said, if you really want to see a meteor, keep an eye on a stargazing podcast, website, magazine, or calendar to catch spectacular meteor showers, when rate can sometimes reach a staggering 60 sightings per hour.

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Mental Health Forum Lackluster



CAMERON SOLTYS
4B MECHANICAL

On Wednesday, March 14, the University of Waterloo hosted a forum to discuss the report put forward by the President's Advisory Committee on Student Mental Health (PAC-SMH), which had been released earlier that week on March 12. The forum, which took place at Federation Hall, was attended by a large crowd: every seat was taken and a substantial number of people stood along the back and sides of the room.

The PAC-SMH was set up in May 2017 to, in the words of its Terms of Reference: "collect a broad set of information on student mental health... advise on the status of the progress of mental health initiatives... examine root causes of student stress, anxiety and depression, and how to mitigate them proactively instead of reactively." The committee operated by posing questions to five expert panels—which, in total, featured some 100 students, staff, and faculty. This feedback was used to generate the report, the most significant part of which is a list of 36 recommendations.

The 36 recommendations are on a broad variety of topics. One of the most significant recommendations, at least to engineering students, is a review of the "unnecessary stress" students in 4-stream coop programs are put under as they try to balance transitioning to university with the added pressure of finding a job. Another significant, distinctly actionable, and long-desired recommendation is to implement a ratio of one clinical staff member for every 1000 students. This recommendation further calls for additional resources during peak times like exam season. Another pair of recommendations touched on the important, Waterloo-specific issue of providing support to the multitude of students that are away on co-op; points include considering the feasibility of offering 24/7 remote services and informing students about off-campus services. Unsurprisingly, but nevertheless importantly, one of the recommendations is that a new committee be established to oversee the implementation of these recommendations and provide feedback to the University based on its performance. This committee would also be responsible for



Cameron Soltys

President Hamdullahpur and PAC SMH Chair Mittelstaedt answering questions at the forum.

prioritizing the activities recommended by the PAC-SMH.

The report seems to be a good foundation for moving forward. It identifies clear issues, many ideas for further pursuit, and a couple of clear and immediate possibilities for action. There was some sense of disappointment about the limited number of concrete plans that are in the works: President Feridun Hamdullahpur announced chair of aforementioned oversight committee as John Hirdes of the School of Public Health and Health Systems, as well as reaffirmed the \$1.2 million announced on Monday that should help the university achieve the goal of one clinical staff per 1000 students. That disappointment is, perhaps, unjustified because the intention of the PAC-SMH was, as is clearly laid out in its terms of reference, a fact-finding, consolidating, and problem-naming venture. However, justified or not, the lack of immediately actionable items is undoubtedly going

to put pressure on the administration to produce concrete results, for the recommendations to be prioritized quickly, and for a path for taking more significant actions to be established promptly.

The forum started off as a polished event, with friendly greeters handing out glossy executive summaries of the PAC-SMH report. President Hamdullahpur made opening comments, thanking the committee for their work and talking about the progress that has been done and still needs to be done by the university. The main substance of the formal part of the forum was provided by Walter Mittelstaedt, the chair of the committee and Director of Campus Wellness. He went into more depth about some of the most significant recommendations and, in particular, the process of the committee and the five panels that gave their feedback. Finally Angela Pereira, representing the Alumni Council, told her story of dealing with anxiety and depression and

offered platitudes that alumni want to engage and help with the mental health situation. In all, the formal presentation lacked some substance, but that can largely be attributed to the justified lack of actionable items in the report.

Where the forum really fell down was in the Q&A portion, where Hamdullahpur and Mittelstaedt took audience questions. The questions were, in general, insightful and pressing. The responses were adequate, though not spectacular. The real lackluster aspect of this supposedly active forum was the extremely limited time allotted to questions. Only a handful were taken before the forum broke up, though people were invited to bring their feedback or discuss further at a couple of feedback stations that catered to specific questions. Though I didn't personally visit those stations, the feedback appeared to be delivered via Post-It note stuck on a poster.

The feedback session didn't specifically end at that point, as all the speakers stuck around to talk further with individuals or small groups. However, even with that service, the whole event was essentially over by 4 PM, with only a few people left clustered around each. Furthermore, this was apparently expected, as Mittelstaedt mentioned that he and Hamdullahpur had scheduled a meeting for 4 PM (though, to be clear, they both stayed past that appointed time). Nevertheless, the net result was that it seemed like the interactive portion was superficial or, at the very least, excessively limited.

Hopefully the announced initiatives—the additional counsellors and the committee to prioritize recommendations—will produce fruitful results. Hopefully the increased awareness and concern expressed by students over the past days and months about the state of mental health will lead to positive change. Hopefully, one way or another, by the continued effort of the university, its students, and society as a whole, the stigma around mental health and the terrible loss of potential that comes with it will fall ever lower and lower.



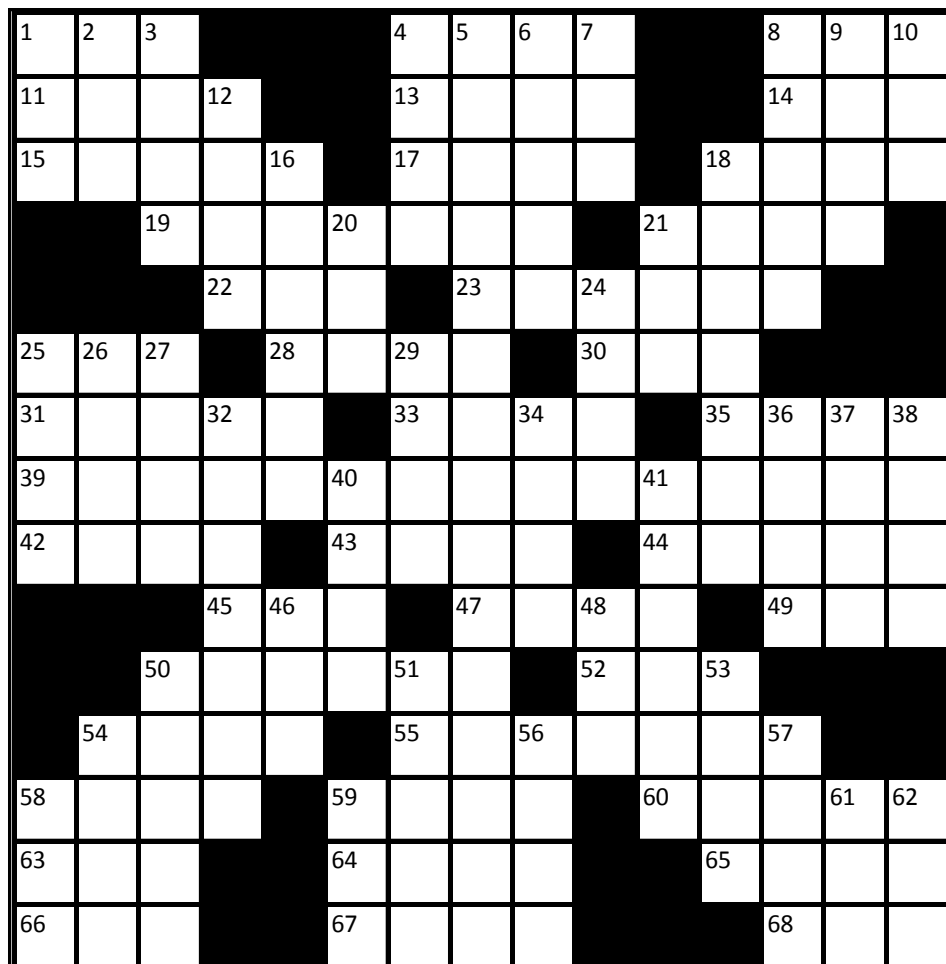
Cameron Soltys

Mittelstaedt talking to students after the forum about their concerns and ideas.

The Iron Crossword

Who Are We?

CAMERON SOLTYS
4B MECHANICAL



ACROSS

- 1: Bank of India (abbr)
- 4: Hit sharply
- 8: E1 (abbr)
- 11: Progenitor of the internet
- 13: Region
- 14: Employee Assistance Program (abbr)
- 15: Circuits of the sun
- 17: Depend
- 18: Against
- 19: Decrease in tension
- 21: Discharge, especially radiation
- 22: Morsel left from a meal
- 23: Successor to fission weapons
- 25: Highest academic degree
- 28: Pain, especially minor and long-lasting
- 30: French for "him"
- 31: A garlic and oil sauce
- 33: Sister of Luke Skywalker

35: ___ a living wage

- 39: Common metal barriers (3 wd)
- 42: Giant ape
- 43: Desire or innate need
- 44: Inflexible
- 45: Easy as 1-2-3
- 47: Pet food manufacturer
- 49: Wet layer on a cold morning
- 50: Father of 33 Across
- 52: Put down particularly gently
- 54: Pop
- 55: Forwarded, especially in radio communication
- 58: Used to propel canoes
- 59: Greek goddess of Earth
- 60: Common, cheap metal
- 63: Keen intelligence
- 64: Keyboard key used to save, copy, and paste (abbr)
- 65: "It's over, ___ it?" song
- 66: Promise to not share provided se-

crets

- 67: Plateau, especially in the US
- 68: Units of distance in naval applications (abbr)

DOWN

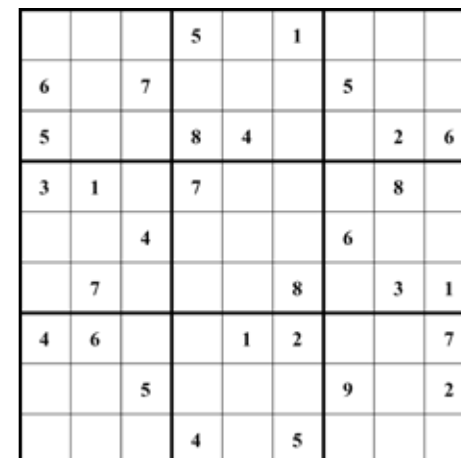
- 1: Semi-enclosed body of water
- 2: Metal-containing rock
- 3: Apple tablet
- 4: Predict trouble
- 5: We ___ (3 wd)
- 6: Famous person
- 7: "Every kiss begins with ___"
- 8: ___ the Menace
- 9: 0.00134102 hp
- 10: ___ pen, adrenaline injection
- 12: Prefix relating to the planet Mars
- 16: Extension over length
- 18: Nominal or environmental, especially temperature
- 20: And so on
- 21: Flightless Australian bird
- 24: Talking snowman from Frozen
- 25: Bag or sack, especially for hiking
- 26: "Greetings, prostitute" (2 wd)
- 27: Shane ___, retired Winnipeg Jets player
- 29: Home Loan Interest Rate (abbr)
- 32: Molecules that bond to other molecules
- 34: Swedish furniture maker
- 36: pH<7
- 37: Italian for "yarn"
- 38: Unsuitable for viewing at place of employment (abbr)
- 40: Happy chance
- 41: Written academic arguments
- 46: Sheep sound
- 48: Citation style of most humanities (abbr)
- 50: Largest artery in the body
- 51: Annoyed
- 53: Alpine Sasquatch
- 54: Spoke
- 56: ___ land, a faraway place
- 57: Holds textbooks and notes
- 58: Possess
- 59: Graphic Communications Management (abbr)
- 61: Tree-person of Tolkien lore
- 62: Suffix on Ubuntu releases indicating extended support (abbr)

Sudoku

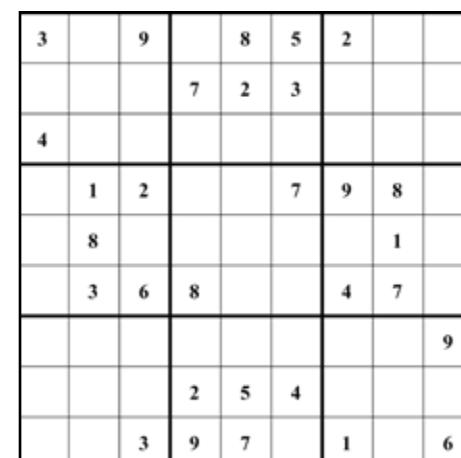
#2018-05

CAMERON SOLTYS
4B MECHANICAL

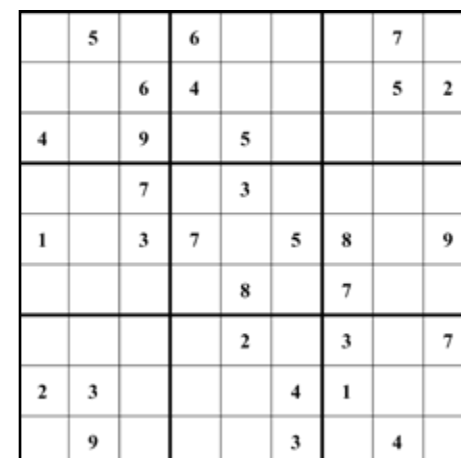
Easy



Medium



Hard



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

THE IRON INQUISITION
Stone He - 1B Mechanical

"What would you say to the outgoing fourth years?"



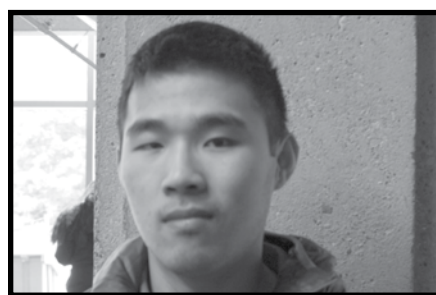
"Hire us when you graduate!"
Jay Daniels and Hamza Kazmi, 1B Management



"We're out of here!"
Joanna Chu, 4B Computer



"Go out in the real world and apply what you've learned"
Asha Arudchelvan, 4B Electrical



"I don't know how you guys did it, but good job—you made it."
Yuhan Lin, 2A Computer



"You should have taken CS"
Syed Hasan Rizvi, 2A Computer



"When life gets rough, remember that it could be worse—you could still be at Waterloo"
Jeffray Nehr