How getting a Job is like Fishing

What on Earth is WiFi CAT?!
The FIREwall Team

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Eric Sembrat

Community Contributors
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Cover Design
Jeanie Choi

Logo Design
Terris Johnson

Special Thanks
Larry Beckwith
Daron Foreman
Katie Raczynski
Matt Schaffer
Mike Terrazas
Office of Financial Services

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FREE FOOD
It’s doubtless doubts have crystallized among CoCians when it comes to securing a computing career. With the world plagued with the worst recession since the Great Depression and a steady decline in employment, most undergraduates are. Add to that the Dot Com bubble burst of 2000/2001 and discouraging reports by the media, and you have concern budding among numerous computing majors about the future state of their profession.

The truth is, however, that the recession has barely touched what was (and still is) a continuing expansion of the job market for computing students. Apart from the dent by the Dot Com burst, job opportunities and demand for computing grads remain on a persistent upward climb. The US Department of Labor continues to project that the fastest growing occupations will be in the field of computing, and projects that the job market in computing will increase by at least 21% between 2006 and 2016. Other authorities—like CNN Money and the Bureau of Labor Statistics—affirm such projections.

This, in a way, is really in response to the Dot Com burst. With a 60% drop in enrollment for computing-related majors and a growing need for computer specialists, the demand remains higher than the amount of talent currently available. Many employers in desperation have begun to look overseas, but stress a preference for fellow at-home computing talent. As basic economics dictate, high demand and a low supply of available talent means employers are willing to pay more, and the likelihood of being hired upon graduating also enjoys a considerable bump.

Of all majors, CS graduates are blessed with the highest likelihood of employment upon graduation. Bachelor’s degree obtainees can expect an 82% chance of employment and 91% chance of a fulltime job. Master’s degree obtainees expect a 76% chance of employment and 93% chance of a fulltime job. Then there’s the payroll. According to National Science Foundation statistics, computing graduates with a Bachelor’s tied second in highest median starting salaries.
with health ($45,000), and computing graduates with a Master’s tied for first with engineering ($65,000). Computing students at Tech are even better off, however, as a survey of 2007 Tech grads found that the median starting salary for students with a Bachelor’s in a computing-related field was approximately $60,000.

Computing is an almost viral field. Its application to everyday life and various other fields continues to spread and propagate at a phenomenal rate. The extent of its application is beginning to reach the extent of widespread importance that long-time workplace staples like writing and speaking have maintained. Take, for instance, computing’s growing application to the sciences. With the technology available today it has become possible to acquire unholy amounts of precise quantitative data that had previously never been dreamed of. Scientific research has consequently evolved to become heavily data-oriented, and the need to analyze and portray this data has resulted in a growing dependence on software and digital models. In response to rising demands in computing for science, some schools have created programs such as bio-informatics or scientific computing. Schools are also beginning to incorporate technology into the classroom and the curriculum, and technical support continues to be in high demand by such schools.

Also noteworthy is the explosive growth of the web—despite the hit it took with the Dot Com crash. A website has become a standard for any serious business, organization or event. Web design has evolved beyond tacky tiled backgrounds and simple html. A person who wants to construct a site must now consider a diverse range of possible layouts and pick from a few dozen languages to achieve the desired effects. Demand for web designers therefore continues to rise and will remain a dependable source of work for years to come.

The biggest problem threatening the rosy disposition of the job market is the lack of computing majors. Although the lack of qualified people in the job pool does increase the chances of getting a job with a high starting salary, the talent pool is shriveling to a point that is slowly forcing employers to fish in foreign pools.
Major corporations, such as Intel and Microsoft, express concern for this lack of available talent. Many companies express a preference for homegrown talent and are subsequently willing to pay the extra dough over hiring cheaper foreign labor. have only half the growth rate of computing. A major turn-off for those considering a CS or CM major is the belief a sedentary hermit-like lifestyle will have to be adopted. In truth computing requires good communication skills and creativity. convinced most fish to join pools with dropping demand. In order to keep the rising number of employers at the computing pool happy, we need more fish to join us. No matter how badly employers want computing-talent-fish, a lack of biting

For students concerned about the future market for jobs in computing, the best way to contribute to its prospects is to become highly qualified in your major. Now would also be a good time to try to convince friends to switch over, as many other fields have been affected by the recession and Computing is also a field that continues to thread out into new different fields. A computing degree is therefore flexible and applicable to a wide variety of work experiences.

Numerous employers seek fish particularly in the computing talent pool. However, misconceptions and myths have

fish will force them to eventually search elsewhere for such fish in foreign waters. The more fish in the pool, the better for us computing majors.
For the benefit of the curious or those with only a vague idea about the InVenture Prize Competition, I wanted to share my experiences thus far with this strange animal in order to provide some scrumptious nuggets of knowledge.

When I logged onto T-square, it was there to tease me. When I went to the library to attempt an escape into productive seclusion, it was there to greet me. When I went into the College of Computing commons in hopes of finding a knowledgeable TA, it was there, subliminally suggesting I investigate an intriguing opportunity. It—the ubiquitous InVenture Prize Competition ad that managed to slip into my virtual and mental inbox—succeeded in not only capturing my interest, but also that of the over two hundred other individuals who expressed their intent to compete by the end of the 2008 Fall Semester.

When I first heard about the contest, I was under the impression that tangible, non-virtual creations were the focus of the competition. After looking at videos of a ping-pong-playing robot, a fifteen second beverage cooler, and an arterial tissue creator, I believed web-based platforms or software creations short of revolutionary control algorithms might not eligible. As a result, I was a little uncertain about submitting my idea given the mention of patents and some of the examples displayed on the website.

Still, I wanted to compete, so I entered the competition just for the sake of not bypassing the opportunity to carry my idea forward and possibly win $5,000, along with other enticing rewards. To proceed to the preliminary round, individuals who expressed interest in the competition were given until the end of Winter Break to complete the registration process. The process required us to fill out an inventor profile, look at patents for related products, validate the viability of our intellectual property, and disclose our inventions by submitting an image of the concept and a file or five power point slides answering the following questions:

What is the problem you are trying to solve?
Why is it important?
What have you done to solve the problem?
What is your invention?
What is the novelty, usefulness, and non-obviousness of your invention?
What is the expected impact of this invention?
Describe the market for this invention: who will buy it, where will they buy it, how many will they buy, at what price?

For me, the last question was the hardest to answer and the most beneficial to tackle given that it forced me to conduct concrete search and analysis as opposed to simply supplying dubious assumptions and arbitrary predictions. I spent quite some time on government websites obtaining concrete demographic and spending statistics. Overall, the registration process took me about 4 hours, though I had been ruminating over my idea for months and tweaking a prototype off and on prior to registering. Also, I got a smidge sidetracked by Google’s Patent search, and started searching for inventions that had no relation whatsoever to my project. If nothing else, though, the detour gave me hope that my idea just might make it. After all, if the “banana protector” I stumbled across (I kid you not), could make it, surely mine could as well.
The registration period was adequate for me since I had been previously working on my idea. If I had brainstormed an idea solely for this competition, I doubt four hours would have been sufficient. Thankfully, I had a summer project that seemed to fit this opportunity.

Once I completed the registration, I focused my attention on the preliminary round of competition. The round had two stages: a prescreening to select semifinalists and an on stage presentation portion to select finalists. During the prescreening round, inventors set up booths and pitched their ideas. A number of faculty judges evaluated the inventions and selected the semifinalists based on their innovation, marketability, market size, inventor passion, and probability of becoming a successful business. I enjoyed walking around and marveling at other students inventions while getting the opportunity to present my idea.

There was a catch, though: we did not find out who would have the opportunity to present until we were on stage during the Preliminary Round open to the Georgia Tech community. In fact, we were not even sure how many teams and individuals would be selected, as semifinalists, until the curtain was raised and the emcee began calling out the names. Fortunately, I didn’t have to wait long to hear my name as I was announced second.

Before I had a chance to catch my breath, I had to rush back stage to grab my poster and get my power point slide presentation. All of the countless hours spent practicing my pitch, gaining input from advisors, and perfecting a two slide power point would be tested in less than six minutes.

Armed with the audacity of hope, garbed in the optimism of youth, and elated at this wonderful opportunity, I stepped onto stage ready to discuss my passion for the last several months. To be perfectly honest, I don’t quite remember everything that happened once I got on stage. I remember quite a bit of laughter (with me, not at me) and good crowd feedback. As to what I said or how I presented, all I remember is what I’ve heard from other inventors.

Apparently things went well, since I was selected as one of three individual finalists to compete in the final round on March 26th. So far, I have had a fantastic experience, and am learning more about entrepreneurship than I ever thought imaginable. I strongly encourage any students with a propensity for innovation to enter next year’s competition. Start brainstorming ideas now! Preparation coupled with passion and persistence is a powerful combination. For now the prize is within my grasp, and next year it could be within yours!
For those not in the loop, Startup Riot is an annual event organized by Sanjay Parekh, the founder of Digital Envoy, where 50 startup companies give 3 minute pitches to job seekers, entrepreneurs, and investors. It’s always a great networking opportunity, and the entire Atlanta startup community turned up.

This year, the second time that this event was held, there were 51 companies and over 350 people in attendance. Parekh said he hopes that the 35 or so job seekers who attended get job offers and that the companies are able to secure investments as well as deals. It was also an opportunity for little known companies with fewer advertising opportunities to get word out about them.

Parekh hopes to make Atlanta become a Mecca for entrepreneurship on the East coast. This was surely evident as members from every aspect of the startup community in and around Georgia and even some from outside the state were in attendance. Among the companies present were Jumbis, Kidkey and Twitpay all of which were formed at Startup Weekend Atlanta 2. For the first time, companies came in from outside the state, some of them covering a significant distance to get here; ShoutNow (another company with roots in Startup Weekend) came all the way from Indiana and Kansas City and WOMBeat! came all the way from Tampa.

One of the main purposes of this event is to build a community among entrepreneurs and investors, and this Startup Riot surpassed all expectations. The networking sessions in between the three hours of pitching were great chances to meet people and talk to companies that pitched their jobs, investing opportunities, or just their ideas in general. The lunch session was a great hit, with people splitting up into groups and heading off to an eatery of their choice. Conversation over lunch was light and ranged from the state of the economy to events at GT.

All in all, the Riot was a huge success, a trend which will hopefully continue in the coming years. Chris Wanstrath, co-founder of GitHub (which he describes as a “Facebook for developers”) said what every entrepreneur feels best:

“Don’t take venture capital because Twitter did. Don’t piss off investors because 37signals likes to. Do whatever you want, whatever works best for you, what makes you the most comfortable and seems like the best idea. Do what you love. What’s the worst that can happen? You’ll fail!”

Sanjay Parekh, the face behind Startup Riot

Stephen Reid - a Tech Student - speaks to Jason Ardell, a Tech grad and successful entrepreneur
What is WiFi CAT? That was the question that was being asked by everyone on the Twitterverse and the blogosphere for the week or so prior to Startup Riot. A short while ago, Scott Burkett—founder of startuplounge.com—blogged about being approached by a team of entrepreneurs here in Atlanta who were in the planning phases of a new wireless startup called WiFi CAT. In addition to announcing that their technology was going to fundamentally change the WiFi scene, with far reaching impliCATions that would utterly dwarf the WiMax initiative, Burkett also announced that he would be presenting it at Startup Riot.

Ever since Burkett’s announcement, discussions have been raging on Twitter as to what WiFi CAT was all about. Comments include remarks about receiving Cease and Desist letter from WiFi at home, but also track your cat using your web browser. Announcing to the audience that Sig Mosley (the godfather of angel investing in Atlanta) was already in on the product, he went on to show a live demo of the software by showing the location in real time of Sig’s cat. Talking about the 500 billion dollar market, asks to the audience, “Sig is in, are you?”

Unfortunately for all pet-loving internet junkies, WiFi CAT was—of course—a joke. Originally planned by the guys over at Venture Labs to prank Sanjay Parekh with a fake company, WiFi CAT was, in actuality, a true demonstration of the web 2.0 mindset in that the story of WiFi CAT spread incredibly quickly through a viral campaign on Twitter and blogs.

This, of course, begs the question: so what? Someone involved in computing pulled off a viral prank. Good for him. What makes this incident important is the fact that it shows that a community of entrepreneurs and start-ups is beginning to develop in Atlanta. Just a few years ago, it would have been impossible for a prank like this to get pulled. It indicates how far Atlanta has come towards being a city friendly to people just starting out, and show that—in that the story of WiFi CAT spread incredibly quickly through a viral campaign on Twitter and blogs.

Scott Burkett awe the crowd with his presentation on WiFi CAT.
Death of the Air Guitar:  
How is the Collaboration Between the Music and Games Industries Affecting the Two Mediums?

Quick question for all the music buffs out there: in all of Aerosmith’s thirty-eight year career, what was its most successful week in sales? Obviously, it was a week with a new release, but which release? Was it 1975’s release of Toys in the Attic, which later went 8x platinum? Or maybe it was 1974’s Get Your Wings, which went on to go 3x platinum? Well, no. Die-hard Aerosmith fans might be more than a little shocked to hear that the band’s most successful debut was not one of its singles, not one of its multi-platinum albums, not even one of its greatest hits collections, but a video game. Guitar Hero: Aerosmith hit shelves last July and grossed over $25 million in its first week. Compare this to 2004’s Honkin’ on a Bobo—which only managed to gross $2 million in its first week—and take a second to think about how strange this is. The biggest opening week in the 38-year-long career of one of rock and roll’s biggest bands was a video game. What happened to the music industry? What happened to the days when the cool rockers and the geeky gamers only crossed paths when the former decided to alleviate the latter of their extra lunch money?

The answer, it seems, is that the music and video game industries have been building bridges to each other’s markets. And why shouldn’t they? Both are multi-billion dollar industries with millions of customers, so it makes perfect sense that they would want to grow off each other. And, as it turns out, the franchise being used for this bridge-building, Guitar Hero, is the same franchise that has been proving that these bridges are profitable by raking in unholy amounts of cash. Even disregarding the amounts of money being made, it’s still an ingenious idea. After all, it just makes sense to introduce someone to a new medium by combining it with one they’re used to. What better way could there be for introducing gamers to rock than through a game?

Here I’m speaking from personal experience. Before Guitar Hero showed me the light, my iPod was filled entirely with jazz and Jimmy Buffett CDs I found lying around the house, a few CDs suggested by friends, and random songs I’d heard on the radio. So, to put it mildly, I wasn’t exactly a rock fan. In fact, when the original Guitar Hero came out, I completely ignored it for the simple reason that I didn’t recognize any of the songs on the track list. Anyone who’s even mildly familiar with the soundtrack for Guitar Hero will immediately realize how out of touch I was with the music world. The fact that I’d never heard “Iron Man” or “Smoke on the Water” speaks volumes about my previous tastes in music. Thankfully, a few friends managed to talk me into giving Guitar Hero II a try, and my tastes in music underwent a dramatic overhaul. Now, a quick glance through my iTunes library will turn up everything from Jimi Hendrix to Metallica to Kansas. I won’t say that Guitar Hero has the final say in what I listen to (I’ll eat my hard drive before I use it to store Kiss music), but it is what introduced me to the world of rock music.

The exchange of consumers isn’t a one-sided one, though; the Guitar Hero series is also a great way of introducing video games to demographics who would never even have considered them otherwise. A quick trip to the video game section at Best Buy is all it takes to see this in action. Watch the Guitar Hero and Rock Band demo systems for a few minutes one day, and you might be surprised who you see trying them out. Of course you’ll see plenty of gaming’s largest demographic (i.e. teenage boys) tearing into expert mode, but it’s just as likely a couple forty-something businessmen might come strolling by, hear a song they remember rocking out to when they were younger, and decide to give it a shot. Every now and then, a disgruntled mom might even show up to drag her kids away from the screen only to come to a dead stop when she realizes they were playing through “Free Bird.” I have to say, there are few things more amusing in the game world than watching little kids looking up at their mother and whining, “Mom, it’s my turn now.” My father in particular is notorious for this kind of thing; when I turned Guitar Hero III on for the first time, he would walk into the room every five minutes or so and stare disbelievingly at the screen as I played through songs he remembered listening to in college. I watched him try to control himself as I played through “Welcome to the Jungle,” “Paint It, Black,” and “Rock and Roll All Night,” and finally got to see him break down when the opening chords to Stevie Ray Vaughan’s “Pride and Joy” drifted across the hall into his office. At that point, he walked into the room and told me I had two options: either I could give him my controller and show him how to change the difficulty to easy,
or I could give him his new controller and watch as he learned how to use his new game system. Thirty minutes later, I gave up on playing the game anymore that night, as my father was enjoying revisiting his college record library so much I didn’t have the heart to stop him.

Amazingly, it’s not just rock consumers that are getting into the games; musicians apparently love the idea, and Guitar Hero’s latest renditions are a living testament to that. The Aerosmith release was, apparently, just the tip of the iceberg, as the online gaming community has been buzzing with speculation about what bands will also be receiving the Aerosmith treatment. According to the game blog Kotaku.com, Guitar Hero: Metallica is slated to come out later this spring. What comes after, though, is open to speculation, and, the internet being what it is, rumors about who will be next have been running rampant. Hendrix is apparently a popular bet, but no one has found any hard evidence to back this up. One thing is certain, though: we have not seen the last of artist-specific rock games. The outrageous success of the Aerosmith release virtually ensures that.

Even if one was to ignore these artist-specific games, the influx of artists into the series and their (in some cases) extreme interest in it is hard to ignore. Take Guitar Hero III, for instance. It’s not subtitled Legends of Rock without a reason. Tom Morello, the guitarist for Rage Against the Machine, and Slash, the guitarist for Guns N’ Roses, both did extensive work for the series. Both lent their identities to bosses in the game and even went as far as writing brand-new songs for their respective boss battles. Slash took this one step further by doing motion-capture work for the game, acting in commercials for the game, and even appearing at an advertising stunt where he played “Welcome to the Jungle” onstage with Bill Gates. Let me say that again: Slash, one of rock and roll’s coolest, grungiest guitarists showed up at the 2008 Consumer Electronics Show, and played “Welcome to the Jungle” with the person that epitomizes, more than anyone else, all that is geeky.

Perhaps the crowning jewel in this trend is the recent debacle over Metallica’s new album, Death Magnetic. Having seen the writing on the wall, the band released the entire album for download to Guitar Hero III on the same day they released

Slash’s motion capture work on the game shows itself by capturing the iconic stance he adopts when playing.
the actual CD. Not only that, but Guitar Hero players were also given the chance to buy two extended versions of the song “Suicide and Redemption” unavailable to those who just bought the CD6. Here’s the kicker, though: apparently the company that did the sound mastering on the CD distorted the sound so badly that some Metallica fans are turning to Guitar Hero for a higher quality sound. Serious audiophiles are actually turning to games, not music, for their musical fix.

So, where does that leave us? Serious gamers are becoming serious rockers, serious rockers are returning the favor, and musicians seem perfectly willing to explore every possibility this new medium has to offer, but what does this all mean for the two industries? Does it mean we’ll start to see better music in games? Probably. Does it mean we’ll start to see more serious gaming-based music? Wouldn’t surprise me. Does it mean we’ll start to see games featuring the off-stage lives of musicians? Good Lord, I hope not; the idea of The Britney Spears Chronicles coming to an Xbox near me is one I’d rather not contemplate. What is far more likely is that as gamers start getting involved in other aspects of pop culture and as more people start to find their way into games, the whole concept of “the gamer” will start to mean less. As more people become gamers, and as gamers become more like everyone else, the phrase, “I play video games,” will start to carry about as much weight as the phrase, “I listen to music.” In other words, it simply won’t mean anything to be a gamer, since games will just become another part of pop culture. The day is coming when someone wearing a Rockstar logo on his shirt won’t draw any more strange looks than someone with a rock band’s logo on his shirt.
How fantastic is it to have Guitar Hero at work? And get free lunch? And have a snack bar every 100 feet! The Women @ College of Computing got a chance to tour the Google office in Atlanta, and these were just the tip of the iceberg.

We were first greeted by the amazing Google employees (one of them was a Tech Alumni) who guided us around the office. Our first sight upon entering the office was an enormous screen which projected the latest search results from around the web.

The office cafeteria has a menu which accommodates the diets for each employee—all with organic food. We walked across the office to the massage room, before stopping over by the beautiful plants, waterfalls and everything else necessary for a nice little slice of a nature reserve.

Along the way, we had discussions with the employees about their experiences at Google. As it turns out, Google policy allows their employees to work 80% on their assigned project, while the other 20% is dedicated towards any project they like. The employees thus have the liberty to suggest a new idea on which Google can build upon—which, for example, is how Gmail started. This way of working from the bottom up is what makes Google unlike other corporations.

After spending time in the break room and talking to employees, we head over to the office's main area and are greeted by a myriad of games, including Guitar Hero, pinball machines, hockey tables and many others. Google believes that taking break from work to relax your mind is the best way to be productive. When employees run into a brick wall or just need to take a step back, they are free to take a break, play Guitar Hero for a while, and go back to working on their project.

At last, refreshments were provided, followed by a group discussion and a chance to mingle with the employees, giving us some time to talk with the employees one on one. It was an interesting experience, I really appreciated the fact that the Google employees took time to give us a tour.
By the time we’re seven years old, most of us had heard of Einstein, either in the sarcastic “great job Einstein” way or the “study hard so you can be smarter than Einstein” way. Eventually, we learned that he became famous for his theory of relativity. But how much do we actually know about the topic?

There are two areas of relativity: special and general. Special relativity is much easier to understand than general relativity when considering the math and the actual topics involved, so it’s normally easier to learn it first. General relativity is used in cosmology and is used to answer questions such as, “What will the universe look like eons from now, and what did it look like eons ago?”

The most important idea of special relativity is that any two experiments conducted in non-accelerating reference frames should have similar results in ideal situations. For example, if two people throw identical balls up at identical speeds in identical weather situations with identical… (you get the idea), then the balls should travel in identical ways. To take a leap forward, this means that if you were in a closed room with no windows and weren’t accelerating, there is no experiment which will determine whether or not you were moving. After all, what would you be moving with respect to? This is why this is called the theory of relativity. Particularly, it turns out that the speed of light can be measured in any frame of reference, which leads us to our second postulate.

Special relativity postulates that the speed of light is constant in all inertial reference frames. If this doesn’t surprise you, picture the following two scenarios. In our first scenario, Harry throws Anna a ball with a velocity v while both of them are standing on the same train platform. In the second scenario, Harry throws Anna a ball with a velocity v, excepting that at this time, Anna is moving away from Harry at velocity w. If we looked at things from Anna’s perspective, the ball would be coming towards us at velocity v - w. Now, instead of a ball, if Harry shined a flashlight at Anna, Anna would see the light beam coming toward her with velocity v - w. Now, why should the speed of light be constant in all reference frames? Why shouldn’t the speed of sound or the speed at which Michael Phelps swims have this property? It turns out that turmoil results if this isn’t the case; particularly, two people could conduct identical experiments in two different rooms and get drastically different results, which would contradict our first postulate. This seemingly innocuous statement has profound implications, some of which include time dilation and length contraction.

It is important to note that time dilation is not the same as time travel. It is true that people can travel forth in time, but as of the current moment, nobody has figured out how to travel back in time. Time dilation can be summarized with the following statement: a moving clock ticks slowly. To see why, let’s suppose that we have a light-clock. Our light clock keeps time by emitting light in all horizontal directions; it starts the timer when it emits light and stops it as soon as it detects light (say when a something reflects light back at the clock). Now, suppose that you are the target holding a mirror (represented by a circle), and the light-clock (the box) is stationary a few meters away (Figure 1). Nothing interesting happens; the light-clock just ticks normally. Let’s say that this time is stationary. Now, what happens if we are stationary and the light clock starts moving? (Figure 2) The light beams now have to travel a longer distance to our mirror to bounce back, and again travel a longer distance to reach the box again. Now, by our second postulate, light travels the same speed in all reference frames, so when the clock ticks away in Figure 2, it ticks slower than the stationary clock. At first, this all sounds like mumbo-jumbo… this was just some concocted example with light-clocks, and probably only works with right clocks, right? Wrong! From our first statement, no experiment can be conducted to tell if
we were moving or not; if this idea only applied to light clocks, building a light clock would be able to tell us if we were moving or not. So, be it light clocks or human hearts beating, it turns out that in our reference frame, a moving object’s clock ticks slower.

Great! But this doesn’t mean that the next time you’re late for class and your professor is annoyed, you can just explain time dilation effects of your watch (though I once used it as an excuse in high school and it almost worked). It turns out that these time dilation effects are miniscule on our levels, but are common in particle physics and planetary and galactic scales because of large speeds involved. This is why you don’t see people suddenly aging or becoming younger when they walk or run (this is not to say that exercise doesn’t help stay fit).

Using a similar argument to the one presented above for time dilation, we can show that a moving object’s length is contracted in the direction that it’s moving in. This means that, if I see a pencil rushing by at half the speed of light and take a camera picture, I will see that it’s much smaller.

We’ll now look at the famous “Twin Paradox.” Suppose that we have two twins, Anna and Harry, who were born at identical times. Now, as they grow older, Anna decides to go to Georgia Tech as a Computer Science and Mechanical Engineering major, while Harry goes to Georgia Tech as a Computer Science and Aerospace Engineer. Eventually, Harry gets a PhD in Aerospace Engineering and decides to venture off into the depths of space, as he discovered a distant planet with possible extraterrestrial life for his doctoral thesis. Now, since it is the year 2078, and Georgia Tech’s Aerospace Engineering program coupled with the advent of quantum computing and has made it possible to propel spacecrafts to speeds comparable to the speed of light. Now, Harry takes off on his birthday and excitedly heads over to his distant planet approaching warp speed.

Eventually, he reaches the planet, and is overjoyed to find intelligent life forms on what he named Planet H. But he gets homesick after a short H-day, and wants to return to Earth. He gets back on his spaceship, and returns to Earth safe and sound, and wins the Nobel Prize for his findings. But, Harry wants to meet with his family first, because they were the ones who inspired him to become an Aerospace Engineer. Harry reaches home, and the second his family meets Harry, both Harry and his family exclaim to each other “Oh my gosh! What happened to you?” with absolutely alarmed and petrified looks. What could have possibly happened which caused them to become terrified?

When Harry took off from his flight, Anna saw that Harry’s clock went slowly, as she saw him move in her reference frame. It was also true when Anna saw Harry return from Planet H: he was still moving in her reference frame. This means that when Harry returns, he should be younger than Anna, though they were twins. Creepy? It gets worse: in Harry’s reference frame, he isn’t moving. But he sees Anna moving, so in his mind, Anna’s clock is going slowly. But this means that when he gets back to Earth, Anna is younger than him. But this contradicts Anna’s findings, as she thinks that she is older. So who is really the younger person?

If you read back over the postulates of special relativity, you will see that the postulates of special relativity only hold in inertial (non-accelerating) reference frames. Was Anna in an inertial...
reference frame? Yes (for current purposes, ignore gravity), because she missed Harry deeply and just stared into the stars the entire time. But was Harry in a reference frame? No! Let’s assume that he accelerated instantaneously to his warp speed and stayed at that speed throughout his trip. Even then, when he turned around at Planet H, he stepped into a completely different frame of reference. Because of this, he knows that a force has been applied to him, and enough weirdness happens such that when Harry returns, he is younger than all of his family. For those of you who want numbers, here they are: if Harry travels at \( v = 0.99 \, c \) and Planet H is 15 light years away, Harry’s family will have aged by about 30 years, while Harry will have aged by only 4 years! Imagine their shocked expressions... if Harry was only 24 when he left, he would be 28 when he returned, while Anna would be 54 years old! This is how Harry is able to travel into the future. While he hasn’t aged by very much, time on Earth has passed by much more quickly.

If you have understood all of the above material, kudos to you! Your first impression from all of the above is most probably one of the following two: “You completely made all of that up” or “Wha... how?!” Both impressions are equally normal. I can easily dissuade the first impression by stating that I made none of the above material up, but Einstein did, and that there have been an innumerable number of experiments conducted by scientists as incredulous as ourselves. By doing this, I hope that I have pushed you into the second more incredulous impression, which even many physicists are under today. But further, I hope that you now understand the buzz about Einstein and his theory of relativity.
On Thursday the 19th, College of Computing students looking to add a bit of international flair to their lives found themselves at Minorities at CC’s International Throwback party—a night of food, games, and fun with a bit of an international twist to it all.

Entertainment included several games of Samba de Amigo, board games, group Sudoku, Catchphrase, and an Indian board game called Carrom. Carrom is, essentially, a table-top version of pool played with wooden disks instead of cues and balls. Players flick a disk across a board and try to knock smaller disks into four pockets at the corners. Aside from this, the game is identical to pool, albeit a bit more painful on the hands. After a few minutes of Carrom, knuckles and fingernails are bound to be throbbing, and more than a few games ended when teams would intentionally lose just to give their disk-flicking finger a break.

There was a variety of food at the Throwback, with everything from an extra-large flan, fried rice, Tex-Mex, Japanese snack food, and, of course Pocky—a staple food in the diet of any self-respecting computing major. The friend of Tech students everywhere (that is to say, Papa John’s pizza) also was available to those who were feeling a little less adventurous.

The Throwback also featured a throwback to a popular old board game: a copy of “Where in the World is Carmen Sandiego?” from 1993. Prizes were given out to players who correctly answered questions about geography and included everything from standards like thumb drives and headphones, to computer games like mahjong and Sudoku, VIP passes to CoCaesar’s (a big Women at CC event later this semester), and even a copy of Okami for the PS2.
In late January, Department of Transportation signs scattered along highways across the United States began to take on a mind of their own. Straying from their programmed assignment of flashing warning signs about roadblocks, detours, and the like, the signs began to display a crude sense of humor, seemingly all on their own. From informing motorists that “nobody has ever loved them” to warning drivers of impending velociraptor attacks, the signs have moved from helping motorists steer clear of obstacles and dangers to downright confusing them.

The supposed culprits of these pranks are, as reported by numerous local and national news stations, ‘hackers’ infiltrating the systems and having their way with the electronics. The start of this trend began on January 20th, 2009, on a hacking-focused website, when the user ‘Atmosfear 1337’ penned a front-page article on how easy these DOT signs are to manipulate. The short how-to guide listed how the only security measure—aside from the possible presence of a small combination lock on the front door—is a numeric pass-code, and documented how easy the pass-code was to reset and manipulate. The remainder of the document listed how the reprogramming of the signs was accomplished.

Two days later, on January 22nd, a user on SomeAwful’s general discussion forum copy-and-pasted the article for forum-users to discuss. Most, if not all, of the conversation in the thread commented on possible ideas using variations on Internet catchphrases and movie quotes. Three days after the initial posting, on January 25th, an article from Austin, Texas was printed which left users a bit excited. A sign originally warning of construction on a specific road was changed to warning of a zombie outbreak. Specifically, the sign was altered to read: “CAUTION! ZOMBIES! AHEAD!!! RUN FOR COLD CLIMATES; THE END IS NEAR!!!!!!” And, as
with most discussion forums, copy-cats began to mimic and advance on the original alteration’s idea over the next week:

Jan. 28th - Austin, Texas: “ZOMBIES AHEAD”
Jan. 29th - Wilmington, North Carolina: “CAUTION: RAPTORS AHEAD”
Jan. 30th - Unknown Location: “STOP! HAMMER TIME”
Feb. 2nd - Carmel, Indiana: “RAPTORS AHEAD CAUTION”
Feb. 3rd - Australia: “NOBODY HAS EVER LOVED YOU”
Feb. 3rd - Australia: “ALL YOUR BASE ARE BELONG TO US”
Feb. 3rd - St. Louis, Missouri: “DAILY LANE CLOSURES DUE TO ZOMBIES”
Feb. 4th - Bellevue, Washington: “ZOMBIES DROOLS! JALOPNIK RULES”
Feb. 5th - Maryland: “ZOMBIES AHEAD”
Feb. 6th - Lubbock, New Mexico: “OMG THE BRITISH ARE COMING”

By February 7th, more than two weeks after the initial posting of the instructions, the reports of sign-tampering had waned and the initial story on “ZOMBIES AHEAD” continued to circulate through international newspapers and blogs. Spanning seven states and two countries, a simple web forum posting on a guide to editing DOT signs led to nearly a dozen signs changing from their normal function of warning drivers of dangers and detours to displaying the chosen messages of a few pranksters. The act of changing these signs may seem like fun-and-games (and does bring a smile to many people’s faces), but the real issue here lies in simply asking if it is ethical to change these signs, given how simple it is to bypass the non-functional security. Because the signs have been well-documented by both outsiders and insiders who use the signage, the default pass-code and the method for resetting it to default is well-known across all revisions and upgrades to the signs. On top of this, the only real ‘security’ on these signs is a generic combination lock that can be found virtually anywhere.

ADDCO, the company who manufactures and designs the signs, is learning from the Internet shenanigans of well-informed nerds. ADDCO reported soon after the first incident in Austin, Texas that the company is sending out notices to customers of its products about the “potentially dangerous” security flaw. Sadly, the most popular method of “fixing” this problem boils down to securing the sign with a padlock and changing the default pass-code—which, thanks to the sign’s design, has already been shown to be ineffective and useless. Technology - 0, Padlock - 1.
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