News from Computer Science and Engineering

Written by the Beta Team of CSESoc
Produced by Angelo Tamayo
Edited by Oswyn Brent, Gabriel Low

βETA

Free as in speech and our awesome BBQs.

Beta Issue #93
Epsilon Edition
Week 10 Session 1, 2014

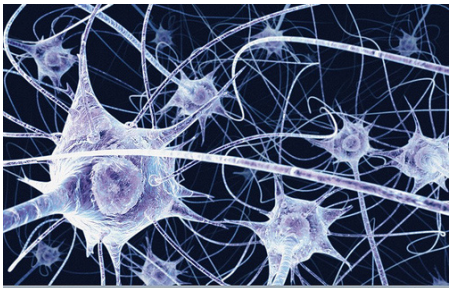
Featured, Technology

Weird Computing III: Brain in a Jar

Once again, welcome back to the strange land of weird computing. For our third sojourn into this strange land, we're going to be meeting up with the resident population of zombies (read: neuroscientists) and asking them why they like brains so much. We're going to do some functional biology, learning more about synchronicity, metastability and why William Gibson is so cool that he singlehandedly kicked off his own genre.

Wetware computing basically refers to building a computer out of biological material, and there's basically only one tried and true method: Brains. So first up, we've for a lot to learn about the brain. It's a pretty cool lump of white-ish goop. It is estimated to produce 1000 petaFlops of computational power, and runs on about 20 Watts. For context, the world current fastest supercomputer, the Tiahne-2 in China, produces only 33 petaFlops, and consumes 17,808,000 watts of power. So nature is winning in a big way.

The brain consists of neurons, which are kinda like the basic NAND gates we make our classical computers out of. Functionally, they're pretty simple. A neuron can have an arbitrary number of one-way connections. Those connections are analogue and can be positive or negative (excitatory or inhibitory for biologists). The neuron sums all the incoming connections it has, and if it ever reaches a certain, reasonably large, positive value, called the Critical Threshold, it triggers the neuron to fire. This means that this neuron sends a voltage pulse along its length, which flows into any neurons it has an outgoing connection to (which might well trigger them to fire, etc.).



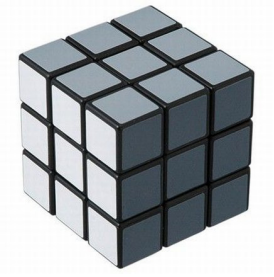
Now, this model of the neuron is a bit simple, because in this case, the overall neural structure, the pattern of connections, is fixed - this means that its not that complex. Real neurons are far cooler than this - they can make, break and change the 'strength' of their connections depending on how much the connection is used. This has a couple of important consequences.

First up, it means we can encode information in the patterns of neurons. Imagine that every time you heard a specific song, an ensemble of neurons set themselves off, leading to the same cascade of neural firings every time. Each of the neurons in this chain would start strengthening the connections between them. If you wanted to remember the song, setting off the neurons in the pattern associated with the start would naturally lead them to set of the next line, and so on. Naturally, we could use the same pattern for each chorus (which also explains why remembering the start of verses is the hardest - they all come from very similar patterns immediately before them). This kind of chain memory also explains effects like getting songs stuck in your head; all you would need to do is cycle the song a couple of times before the effect is self-reinforcing. It also explains why practise makes perfect - practise would continue strengthening the connections in the cascade that lead to success, and lower strength of stray connections. Everything from songs, to muscle actions, to steps in mathematical derivations can be efficiently encoded this way. This is a very signal dense and high fidelity

Continued on page 3

Google Glass - page 2
What Heartbleed has taught us - page 2

DotA and LoL - page 4 =



Entertainment - page 6

Technology

Google Glass Apps for the Disabled

Telstra has trialled Google Glass assistive apps for the visually and hearing impaired, giving two of their employees, Kelly Schulz and Peter Miller, the wearable device to test out for a day.

Kelly has been 97% blind since birth and often finds tasks such as crossing the road difficult, when many traffic lights don't beep for green pedestrian lights. This means that she has to walk a few more blocks to find a traffic light that beeps just to cross the road.

At the supermarket Kelly would normally have to double tap her smartphone to take a photo of items and listen to the description. With Google Glass, she is able to say, "Okay Glass, what's this?", and it will snap a picture and read the description into her right ear. Packaging for the peas and the minted peas only have a one word difference, and by asking Glass what it is she is able to find out almost instantly which is which. "To have that hands-free ability to identify objects, being connected to a fast network, being connected to the world and have it all private in your ear, on your head – fantastic!"

For Peter, being hearing impaired since the age of two has meant that he has had to wear a big hearing aid sticking out of his ear with a cable attached to a metal box. He had imagined that he would have to go around with a laptop everywhere to transcribe what people were saying. The Google Glass app uses Google's voice-recognition engine to stream spoken conversations in real time as text onto the screen above the right eye. It automatically translates what's been said in front of Peter and allows him to face people while they are talking, rather than having to look at his laptop all the time. "I can be a more active participant in meetings and conversations and I can walk into any meeting whatsoever without needing to book any special services," he said.

Google Glass enables people who have their hands tied up to have more freedom, and is helping to bridge the gap between able and disabled. At the moment, there are about four million people with a disability in Australia.

The wearable device is not yet available in Australia, and so far has been on sale to the US public for one day only on April 15th for US$1,500. It has Bluetooth and WiFi, a 5MP camera and 720p video capture, and weighs in at 50g.

Caroline Cham

Technology

What Heartbleed has taught us

It has been a bit over a month since Heartbleed first became known to the public and apparently there are still over 300,000 websites that haven't patched their systems yet, presenting a major security risk for their users and their personal information. While Heartbleed has been a terrible security flaw in a widely used cryptography library, it has also acted as a social experiment in demonstrating how we perceive personal privacy on the internet and the social and technological consequences of this.

There are a lot of things on the internet that is freely available and publicly distributed but there is some data that you would like to keep private, particularly personal information and bank accounts. After the massive scramble by companies to try to fix their servers, there was a significant proportion who cried "You chose to put your information so you can only blame yourself" or "You knew the risks when you put your personal information on the web" from their prehistoric caves. Essentially, they are saying that when you are choosing to put your information on the internet, you are choosing to have your privacy violated.

This is a very backwards way of thinking for numerous reasons yet one that many people believe. By blaming the user, it absolves all liability from the hacker or exploiter. Sure, one can make the case that if you didn't put your information online, you would be safe but when the internet is so widely used, are you still choosing to use technology? Are you choosing to store your money in a bank account instead of behind the toilet seat? Are you choosing to communicate with people easily?

Of course, no one is forced to do any of these things but there is a certain comfortability in using the internet over not using it, not to mention the social and economic pressure to do so. Yes, we do recognise the risks but to claim this is a choice is a vast simplification in the same way it would be a choice to wear clothes.

So now we have reached a different problem: is the risk inherently in the system and one we need to accept? I think not. I think if this were to happen in the "real" world, say your driver's license was stolen, you wouldn't go "well, that's what I get for going outside and driving my car". There seems to be this double standard when it comes to privacy on the internet, one that needs to be addressed.

Now that the internet has reached critical mass, the choice to use the internet isn't so easy and we need to change the way we perceive personal security on the internet. The alternative is accepting as a society to give up our privacy on the internet.

Michael Nam Lee

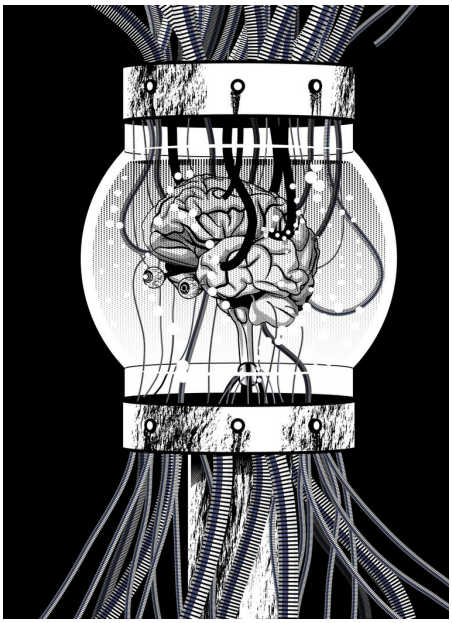
Weird Computing III: Brain in a Jar - contd.

way of adaptively storing information, which is a big win for evolution.

The second, even cooler result is that you are also able to repurpose hardware entirely through a process called neuroplasticity. We have a pretty good idea that various brain functions have a 'default' position in the brain - all healthy brains have speech functions in the same place (Broker's Area) and their motor cortices in the same place, and so on. However, there are plenty of accidents and diseases which result in an area of the brain not working, like strokes. Patients immediately lose the functionality of that part of the brain, but they are often able to recover a lot of it by repurposing other parts of the brain to do the same work. For any Computer Architects among us, this is the equivalent of losing a chunk of your processor (say the ALU), but sacrificing a section of memory to serve as a new one. Clearly, the new version won't be as good as the old, but you're also not dead. The ability to repurpose hardware is really a far sight from how we usually design computers, but there are some systems - like systems sent into space where there are cosmic rays, meteorites and no chance of replacement, which implement similar kind of structures. Either way, its a big advantage for evolution.

Now, we've talked about memory and hardware, but we haven't seen any ability to do processing out of the brain. So here is where we get into Brainwaves. There are plenty of large scale structures in the brain, things like the different lobes and the Corpus Callosum - which is kinda like a bus between the two hemispheres. These big structures are constantly talking to each other, and this traffic generates an easily recognisable periodic signal, called a brainwave. There are a few different brain waves, and they correspond to really stable patterns of mass neural firings, and vaguely correspond to the very high level states your brain can be in - asleep, relaxed, concentrating and shitting yourself.

Brainwaves are an example of metastability, which basically means a phenomenon that is not one of the lowest energy states, but is none-theless stable over a useful time period. In computing, metastability is really bad. A common example is in a flip flop, generating a metastable oscillation of constantly flipping between 0 and 1, instead of arriving stably at one or the other like it should. This generally ruins your processor entirely, because computers are usually Synchronous, meaning they all have to obey a clock. The metastability generally ignored the clock, meaning you're entire system gets buggered up until the metastability resolves itself. Getting slightly out of time with the clock, or



having rapid changes around the clock edge can result in the behaviour of components being very hard to define. On the other hand, brains are Very Asynchronous - they're designed to always work in real time, combining signal pulses with completely different timing. This means that metastability can be very useful - it allows the easy shunting of information and energy all over the brain and also allows you to effectively broadcast big information like 'I suddenly became very stressed' to all parts of the brain quick quickly.

So, now that we've had Brains 101, do you think we can use what we've learned to make a Brain Computer? No, not really. The thing about coding computation in the really subtle and complex wiring of billions of neurons is that it would take a supercomputer a really really long time to figure out how to efficiently create a structure to perform any given task. And we'd have to design it to be asynchronous and not be destroyed by metastability, which are very hard things to effectively simulate and design. And then we'd have to Grow it. And it would take a whole bunch more calculation and growing to reprogram it. And it might become sentient and try to kill us.
Luckily, nature heeded none of those limitations and spent billions of years creating us. As for that last point, look how nice we're being to nature.

But something much more interesting is attaching a brain to a normal computer. This could lead to things like not needing keyboards, mice or screens, and throwing yourself fully into Cyberspace (which we all know would be the coolest thing ever). It could also be harnessed to give everybody digitized immortality and badass robot bodies. If you cannot see why this would be cool, you are already braindead. Unfortunately, this endeavour suffers from a lot of the same problems as the growing brain computer plan - we barely know how our own brain works! A lot of what I have written in this article is pure conjecture, based on nice theories and fitting pretty well with the evidence we have so far. Most of physics was like this before Newton turned up and helped out.

That being said, lack of knowledge never stopped authors, and undoubtedly the single best set of literature to deal with wetware computing is the famous Sprawl Trilogy by William Gibson. Heralded as the crown jewel of Cyberpunk - the book that really kicked off the genre, Neuromancer held the first descriptions of Cyberspace as we would come to know it, which the characters 'jacked in' to and experienced it in a fully real way. In the two sequels Count Zero and Mona Lisa Overdrive, Gibson further expanded his repertoire, including re-

Continued on next page.

Weird Computing III: Brain in a Jar - contd.

engineering people's brains to include dense computational substrates and AIs. In my opinion, the Sprawl Trilogy should constitute required reading for all people with brains. This set of work is widely acknowledged to have inspired later sci fi works like The Matrix - kicking into the old philosophical problem of the Brain in a Jar.

The Brain in a Jar Problem basically asks, How can we be sure we are not just a Brain in a Jar, being fed experiences by a computer that we're connected into. As the idea of Cyberspace becomes more and more real, with prosthesis like the cochlear implant and the bionic eye, we're rapidly approaching the point where we could do this to our very own Jar Brain. The generally accepted conclusion, by the way, is that it makes absolutely no difference to us - whether we're a brain in a jar, a character in a book, part of a dream that will be destroyed when the subject wakes - none of these have any impact whatsoever on our lives, and so the theory can be safely ignored.

So, having dipped into metaphysics, I think we're done for this week's adventure. Tune in next time as we go on to investigate the far less biological, (and therefore far more sense-making) land of light and photonic computing.

Matthew McEwen

Games

A MOBA Comparison: DotA and LoL

You often hear DotA players laugh at how easy LoL is, but is it all just bias? As a DotA player of ten years now, I'm here to give my own review of the games, and how they compare with each other. I am not the biggest LoL player out, actually I am far from it, but I feel that it is a very easy game to pick up and know how to play, especially for someone with experience in other MOBAs.

1. Learning Curve
The learning curves between DotA and LoL are on completely opposite sides of the spectrum, with DotA being substantially harder to learn. I believe that this correlates with the difficulty of the games, and how much more punishing DotA is than LoL. In League, there are videos for every skill of every champion in the game, within the game itself, rather than having to go to YouTube to learn their skills. Also, in League, you don't get punished as severely as you do in DotA for making mistakes. For example, if you miss a stun in League, you'll probably still have a chance to throw it later, but in DotA, that is a huge loss of mana in your manapool, and it is essential to use your skills as efficiently as possible, unlike in League, where most of the champions are free to spam their abilities. Secondly, in LoL, you don't lose gold for dying, and although giving a single kill to the enemy is almost never a good thing, it doesn't set you, individually, back much in comparison with in DotA, where the respawn timers are longer and you lose gold too, making it much harder for the new players to get their items. Another noteworthy feature in League is the account levelling system, which unlocks more features of the game to the player after playing more. This helps players slowly ease into the game since you don't have the full force of the game thrown at you, with all of these abilities and items, unlike in DotA. Adding to this is that the champions pool in League is limited to the free ones per week, and the ones who you've bought, so you aren't introduced to too many champions at once.

2. Graphics
I personally really don't care about graphics and play in as low settings as necessary for optimal performance from my PC.

3. Heroes, Champions, and their Roles
I don't think that the difference is really in the game itself for this criteria, but rather the player base. A lot of the time in DotA, especially in the lower pools, you have all of these people playing support heroes who are trying to play as a carry, which is really just a waste. I hardly ever play a LoL game where people don't know their roles. Another distinguishing feature between the two games is how LoL has tried to make the game more malleable by having masteries, which are awarded to the player for levelling up their account, and runes, which they can buy using in-game currencies.

4. Gameplay
Both games follow similar phases: laning phase to mid game to late game. The aim in the laning phase is to maximise your farm and experience, and score a kill whenever the

Continued on next page

A MOBA Comparison: DotA and LoL - contd.

opportunity arrives, usually with the help of your jungler in League. There are just so many differences between the games though, so I'll go through just a few:

In LoL, the jungler will usually pick up the summoner spell "Smite", which deals a large amount of damage to creeps and allows them to pick up the "Blue" and "Red" buffs, which grant bonuses. They will follow a path, clearing the camps in the jungle and looking for opportunities to gank a lane. In DotA however, the jungler will usually just stay in jungle and farm up. One of the reasons jungling in DotA changes the laning phase so much more than in League is that one of the lanes is short a hero, and most heroes will have a lot of trouble soloing a lane against two heroes. This means that a team has to be planned accordingly, as the matchups in the laning phase are of utmost importance. Whereas in League, where clearing jungles is relatively straightforward, DotA has a few mechanics which make it take more effort than in LoL.There are three things that come to mind: creep stacking, choke point jungling, and pulling. In DotA, creeps spawn every minute, with the first camps spawning at the 0:30 mark. For each camp there is a spawn box, so if there is nothing obstructing the spawn box at every XX:00 mark, then, a camp will spawn. This includes wards. So what you can do is stack the camp by having the creeps chase you, and make sure they aren't inside the spawn box at the minute mark. However, this means that the camp will be harder to clear, since there are more creeps. This process is called stacking, and will increase your farm a lot. Also, when jungling, the player can stand in specific spots at the camp and fight only one melee creep at a time and hence take much less damage. These spots are called choke points, and can often only be accessed by cutting down trees. Finally, during the laning phase, blocking creeps by standing in front of them while walking down the lane is very important in the game. A lot of DotA is about positioning and so being too deep in the lane exposes you to ganks. Keeping the equilibrium of the wave means that last hitting is very important so as to minimise your footprint in the creep waves, and since the map is bigger in DotA than in LoL, being deeper in the lane means that you have a longer way to run than in League. In DotA, you can pull neutral camps to your lane, and hence reset the position of the lane creeps if your lane has pushed too deep. This is usually left to the support or the jungler of the lane, allowing the carry to keep the lane experience and gold. Again, another of the biggest differences in the laning phase is the use of a courier in DotA, as in LoL, even if you have the greater farm, if you haven't gone back to get items and your lane opponents have, then they're technically more farmed than you item-wise.

Towers are also quite different between the games. In DotA, the towers have less damage and so it is easier to dive into the enemy tower, but the towers have more defence. In League, the towers do huge amounts of damage and you can dedicate less people to defend them. One of the most important things to have in DotA is to always carry teleport scrolls. I really can't stress it enough, you can save your life by teleporting away, save a tower, save a hero who's being dived. So always carry teleports. The closest thing to a teleport scroll in League is the summoner spell, but it has a really long cooldown and isn't always picked up, so it's quite different.

My final point under gameplay is the late game. In League, it isn't rare to see a champion get six slotted. Since you don't lose gold from deaths, the amount of gold that you get can only go up, and so you're bound to always have items even in a losing game. It is much easier to get back into the game when you're at a disadvantage in LoL in comparison with DotA, as the game is much more forgiving. One other example is that in LoL, the Inhibitors (Barracks) respawn after five minutes and so you don't keep super creeps after destroying them, unlike in DotA. I've really only just brushed on the differences in gameplay between the two games and would need many more pages to really give a more in depth comparison.

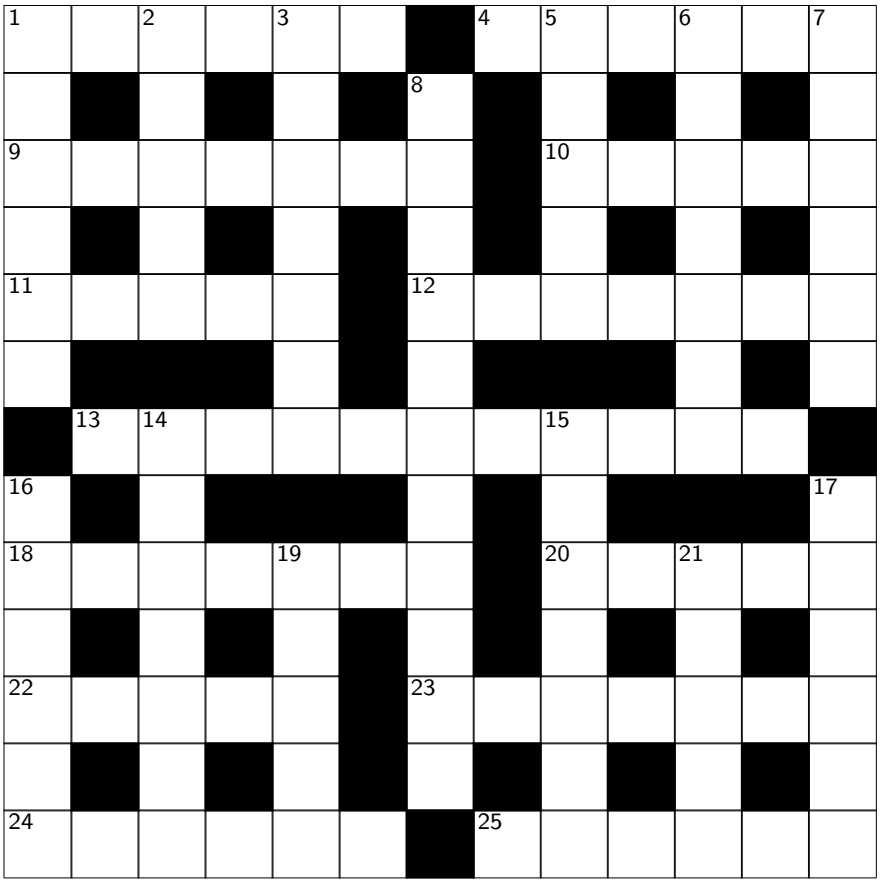
5. The Community
One of the good things about LoL is that it doesn't have voice chat, which means that you don't have to listen to some really annoying voices while playing. However, this means that it's harder to communicate, and so you don't really get that feel of community as much in League. I've heard many people say that the DotA community is horrid, but I personally think that in almost any game you play, the community will have plenty of whiners, it's just that the difference between LoL and DotA is that it's much easier to hate a community that talks crap over voice chat than one that just types it at you. One solution though, if you don't want to listen to them, is to always five stack! Just for statistics' sake, DotA 2 has about 7.9 million monthly players, whereas League of Legends has 67 million monthly. On a daily basis, Dota 2 peaks at 780 thousand players, topping the charts in steam as the most played game, with Counter Strike: Global Offensive, the second most played game, peaking at 170 thousand players a day. It is completely dwarfed however, by League, with an impressive 7.5 million players concurrently playing during peak hours of the day, with about 27 million players playing each day. It's really no contest which is more popular.

League of Legends and DotA 2 are very different games and hence I don't feel that one can really call one of them better than each other. I feel that LoL is much easier than DotA, so when I feel like just wrecking people so hard that they wish that I flayed their skin off instead, I decide to hop on LoL (although really I just want to level up my account so I can play with my level 30 friends).

Angelo Tamayo

Entertainment

Crossword



Across

1. Accidental, random
4. Noise, commotion
9. Rotate around a point
10. Common keyboard instrument
11. Common man's name

Down

1. Trumpet-like brass instrument
2. Iron block used in metalworking and music
3. Small keyboard instrument
5. Allow prices to faill and rise quickly
6. The keyboard of a music instrument (Archaic)
7. Digging tool
8. String instrument played using air (7,4)
14. Early cannon
15. An alpine horn
16. A blacksmith's forge
17. Rapid short, sharp sounds
19. Base-8 number system
21. Move in large numbers
12. Brown coal
13. Magic words
18. Extinct elephant
20. Italian noodle
22. Browned bread
23. Criminal law against riots
24. Austrian mountain song (pl.)
25. Lack of ethical standards

Oswyn Brent

Hint hint

Last Beta's Crossword Solutions:

■	N	■	F	■	L	■	C	■	M	■	C	■
R	O	C	O	C	O	■	A	P	A	C	H	E
■	D	■	L	■	W	■	N	■	N	■	A	■
H	E	A	D	■	R	E	A	L	T	I	M	E
■	■	■	E	■	I	■	L	■	R	■	B	■
A	D	D	R	E	S	S	■	P	A	N	E	L
■	A	■	■	■	E	■	L	■	■	■	R	■
S	T	A	C	K	■	S	A	W	D	U	S	T
■	A	■	L	■	G	■	T	■	R	■	■	■
A	B	S	O	L	U	T	E	■	I	C	O	N
■	A	■	V	■	E	■	N	■	V	■	B	■
A	S	S	E	T	S	■	C	L	E	V	E	R
■	E	■	R	■	T	■	Y	■	R	■	Y	■

Entertainment, Music

Keepin' it Trill

Siddy & ryan1894 - two students give a few songs that everyone should listen to

In new music we trust; BBC RADIO 1. Trust BBC Radio 1 to bring you the best music in the UK and around the world. This is Siddy and ryan1894 BBC Radio 1's Essential New Mix at Creamfields.
This dynamic duo is behind the biggest tune this summer and this years biggest set at Ultra Music Festival.
Trance around the world with Siddy and ryan1894.

trance / house
the melodies of prog house and the energy of electro house / trance
euphoria
Mat Zo & Porter Robinson - Easy
Mat Zo - Lucid Dream
Mat Zo & Arty - Rebound
Mat Zo & Arty - Mozart
OVERWERK - House
Darude - Sandstorm
Zedd - Spectrum
Deadmau5 - Ghosts 'N' Stuff
Porter Robinson - Language
OneRepublic - If I Lose Myself (Alesso Remix)

jersey house / breaks
super energetic beats x snares
ultrahappyvibin'.wav
813 - XOXO
813 - Thank You
813 - Prpl Drunc
Wave Racer - Streamers
Flight Facilities - Stand Still feat. Micky Green (Wave Racer Remix)
Ghost Town DJ's - My Boo (Wave Racer Remix)
Kanye West etc. - Marvin & Chardonnay (DJ Hoodboi & Trippy Turtle Remix)
Y2KOALA - STAYYY FLYYY
DJ Paypal - Center Your Love (DJ Paypal Remix)
Trippy Turtle - Wet

psychedelic trance
magic_mushrooms.jpeg
Astrix - High On Mel
Major 7 - Black 7 (Coming Soon Remix)
Shpongle - Divine Moments of Truth

big room
a.k.a. the only thing Siddy plays at Marquee
Knife Party - LRAD
Kaskade - Atmosphere
Kaskade ft. Project 46 - Last Chance
Vicetone - Lowdown
Project 46 - Reasons
Hardwell - Spaceman
The Chainsmokers - #SELFIE
Archie V - Heart Attack
Nicky Romero ft. Krewella - Legacy
Axwell - Nothing But Love

trap
TURN DOWN FOR WHAT
DJ Snake & Lil Jon - Turn Down For What
Baauer & RL Grime - Infinite Daps
Baauer - Slip
Baauer - ... mate just dl Baauer's albums and you got 99% of all trap known to mankind

nu-disco / dance
Chromeo - Jealous (I Ain't With It)
Chromeo - Come Alive
Bag Raiders - Shooting Stars
Bag Raiders - Not Over
Duck Sauce - Mondo
Freemasons - Love On My Mind
Televisor - Pinup

disco / funk / boogie
aight token gimme a smooth bass line
Boney M. - Rasputin
Boney M. - Daddy Cool
Grum - Can't Shake This Feeling
Justice - D.A.N.C.E.
Gant Garrard - All The Luv I Got

house / garage
808kick.wav
Machinedrum - DDD
Gorgon City - Real (feat. Yasmin)
Gorgon City - Ready For Your Love (feat. MNEK)
Kidnap Kid - Stronger
Kidnap Kid - Lazarus Taxon
Disclosure - F For You
Mike Mago - The Show
Maribou State - Truths (feat. Jimi Nxir)

dat nostalgia
dem feelz when 90's kid; 8/8
Hilary Duff - Come Clean
Good Charlotte - Sex On The Radio
My Chemical Romance - Welcome To The Black Parade
Fall Out Boy - Thnks For The Mmrs
Counting Crows - Big Yellow Taxi
Counting Crows - Accidentally In Love
Vanessa Carlton - A Thousand Miles
Wheatus - Teenage Dirtbag
Backstreet Boys - I Want It That Way
Clean Bandit - Rather Be
Toploader - Dancing In The Moonlight
Bowling For Soup - 1985
Blink 182 - All The Small Things
***N Sync** - Bye Bye Bye
Haddaway - What Is Love
Britney Spears - Oops! I Did It Again
Basshunter - DOTA
Green Day - Boulevard Of Broken Dreams
Destiny's Child - Say My Name
Jay Sean - Down
Daft Punk - One More Time
Macy Gray - I Try
Baha Men - Who Let The Dogs Out
Nelly Furtado - I'm Like A Bird
Shakira - Whenever, Wherever
Atomic Kitten - The Tide Is High
Nikki Webster - Strawberry Kisses
Avril Lavigne - Sk8er Boi
Spice Girls - Wannabe
Red Hot Chilli Peppers - Dani California
Nelly - Hot In Here
Black Eyed Peas - Where Is The Love
Black Eyed Peas - Don't Phunk With My Heart
Maroon 5 - She Will Be Loved
Simple Plan - Welcome To My Life

nu-jazz / post-bop
steven fan likes BBNG; you should too
BBNG - Confessions (feat. Leland Whitty)
BBNG - Kaleidoscope
BBNG - Eyes Closed
BBNG - CS60
BBNG - basically all of album III
Mouse On The Keys - Saigo No Bansan

Ryan1894 & DjSiddy

CSE Events and Societies

Upcoming Events

CSESoc Weekly Barbecues
Monday 12:30-1:30pm
Physics Lawn
Free food, what else can I say?

Deloitte Technology Insight Night
Monday 19 May 5:30-7:30pm
Level 9, 255 George St Sydney
Deloitte Sydney invites you to join them for an evening at Deloitte and engage with their tech experts for an interactive insight into how they tackle real client issues!

Deloitte Technology Insight Night will be a hands on event for Information Technology, Information Systems, Engineering and Computer Science students to participate in an interactive experience by creating major enterprise architecture strategies, investigating complex online fraud issues, assessing and mitigating organisational risk and developing innovative concepts for improving business efficiency using real Deloitte client work.

- Creating major enterprise architecture strategies
- Analysing complex data to drive business strategy and performance
- Developing a social media strategy
- Assessing and mitigating organisational risk; and
- Developing innovative technology solutions for improving business efficiency.

RSVP: to Jemma Renshaw; jrenshaw@deloitte.com.au. Essential for students to attend.

RSVPs should include full name, contact phone number and email. In addition to this information, you should include your degree type, university and student status (local student or international student). Places will be strictly limited. First in best dressed.

Deloitte hosts this event in many of their office locations throughout the year and registration is open to students up to (and including) their penultimate year of an undergraduate or postgraduate technology focused degree. For more information about Deloitte's technology offering's please visit their website.

Anita Borg Scholarship
Dr. Anita Borg devoted her adult life to dismantling barriers that keep women and minorities from entering computing and technology fields.

As part of their ongoing commitment to furthering Anita's vision, Google is pleased to announce The 2014 Google Anita Borg Memorial Scholarship: APAC. Through the scholarship, they aim to encourage women to excel in computing and technology, and become active role models and leaders.

Top female technologists from Australia & New Zealand, India, Japan, Korea and Southeast Asia who have demonstrated impressive leadership and a commitment to advancing women in the field will be awarded the scholarship and be invited to an all-expense-paid retreat in Tokyo on September 17-20, 2014 (click here to see highlights from 2013). Make sure to apply soon as applications close May 28!

CSESoc Beta Team

This Edition of Beta is Sponsored By...

Jane Street

accenture

pwc

freelancer