

Sisters from different Misters

Assignment 2 Submission

Team Profile-

Group Name: Sisters from different Misters

Website: <https://kingotto1999.github.io/SistersFromDifferentMisters/>

Repository: <https://github.com/kingotto1999/SistersFromDifferentMisters>

Personal Information:

Juan Tate- Student number is 3751262, I was born in Rio de Janeiro, Brazil in 1998, but since 2001 have lived in Curitiba. I speak two languages, Portuguese and English. I can talk a tiny bit of Spanish too. I am really passionate about soccer and basketball. My hobbies are to listen to music a lot, read and spend time with the ones I love. My IT interest is coding, hopefully I can work on a job where coding is a main emphasis, however I don't have experience on the IT field. My team name is Sisters from different Misters.

Sam Golding- Student number; s3792144. I was born in Melbourne and have lived here my whole life. I attended Swinburne doing a Bachelor of Science with a major in biotechnology for a year before switching to the bachelor of IT at RMIT. My interests in IT are around music and the way IT helps to enhance and make it easier to produce/enjoy, as well as in the video game industry. I don't have a whole lot of IT experience apart from playing games for many years and building my own computer as well as reading about new things to do with the industry. My hobbies are playing games, tennis, playing the guitar/piano. I am in the Sisters from Different Misters Group.

Tom Nunan- Student number - s3722013 I'm from Melbourne, Australia, have completed year 12, and speak English! So, what I would say is some actually interesting things about me is that my passions/reasons for existence include Music. I can actually say that I enjoy at least one song from every genre of music. Also, I love levelling up by learning so

I'm always listening to podcasts. Also, I love debating and questioning people's viewpoints, I have always been one to question everything, even if it was to my own detriment, from an early age.

Kenneth Kristopher Chang- Student number: s3669227

I am from Jakarta, Indonesia. I have been studying in Melbourne for about two years including foundation. My hobbies are playing games, badminton, and watching movies. My interest in IT is about cyber security as it is very fun to learn, and I love watching movies about hacking. I have learned a bit of python on my high school years and also a bit of C++ from foundation. I am in the sisters from different misters' group.

Clement Arvin Lea- Student number: s3733826

I was born in Jakarta, Indonesia. However, my great grandfather was actually born in Mexican, China and migrated to Indonesia during the Chinese civil war. Therefore, I can understand a bit of basic Mandarin. My interest in IT is coding because it enables me to be creative. I am also interested in IT because of the rapid progress and innovative technological advancements. My hobbies include basketball, reading and music. I am in the Sisters from different Misters group.

David Bozin- My student number is s3784208. My email address is: dbozin7@hotmail.com. I'm half Romanian and half Czechoslovakian. Therefore, I can speak and understand a little Romanian. I like playing soccer, mountain bike riding and playing video games. I am a part of the Sisters from different Misters group. My personal interest in IT stems from my fondness of PC gaming. I'm also interested in VR party as a result of my video game interests and partly because I think the applications and potential uses for it are cool. My experience in IT thus far is quite limited, I have swapped out some components in my computer and know a little about computers in general.

Ryan Kerrison- Student number: s3787580

I was born and raised in Darwin and only moved to Melbourne at the start of the year to start studying at RMIT. I enjoy watching and playing many sports such as soccer and basketball. My IT experiences are not very extensive, but I have put together a computer when I wanted to play more intensive computers games.

Team Profile: Our groups personality meshes really well, we have several extroverts and introverts, which is good, since the extroverts will make the others feel comfortable, Moreover, all of us are prospecting, hence we are not judgemental of each other, which will really come in handy in regards to our differing work ethics. Our group have differing personalities, however this is not a bad thing, since every personality trait has a strength and a weakness, and since we have traits in different spectrums, these strengths and weaknesses will not overlap, hence resulting in a group that has a diverse skill set.

Juan- The tests show that Juan is extremely confident, which is good, since he will trust his skills and that came come in handy when working with a big group, since he trusts his skill set. He is also extroverted, meaning he will make introverts feel included on the group. Finally, he is assertive, hence he will make sure he finishes work on time and will be on top of it.

What's Your Learning Style? The Results

Your Scores:

[Printer Friendly Version](#)

- Auditory: 15%
- Visual: 25%
- Tactile: 60%

You are a **Tactile** learner! Check out the information below, or [view all of the learning styles](#).

Tactile

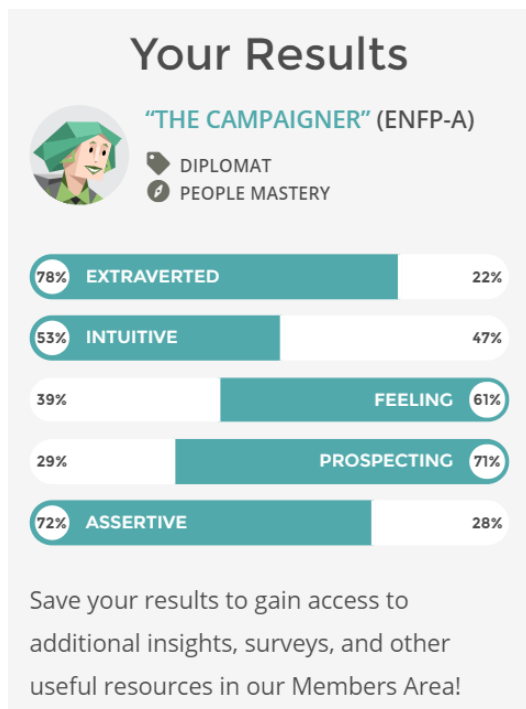
If you are a tactile learner, you learn by touching and doing. You understand and remember things through physical movement. You are a "hands-on" learner who prefers to touch, move, build, or draw what you learn, and you tend to learn better when some type of physical activity is involved. You need to be active and take frequent breaks, you often speak with your hands and with gestures, and you may have difficulty sitting still.

As a tactile learner, you like to take things apart and put things together, and you tend to find reasons to tinker or move around when you become bored. You may be very well coordinated and have good athletic ability. You can easily remember things that were done but may have difficulty remembering what you saw or heard in the process. You often communicate by touching, and you appreciate physically expressed forms of encouragement, such as a pat on the back.

Here are some things that tactile learners like you can do to learn better:

- Participate in activities that involve touching, building, moving, or drawing.
- Do lots of hands-on activities like completing art projects, taking walks, or acting out stories.
- It's **OK** to chew gum, walk around, or rock in a chair while reading or studying.
- Use flashcards and arrange them in groups to show relationships between ideas.
- Trace words with your finger to learn spelling (finger spelling).
- Take frequent breaks during reading or studying periods (frequent, but not long).
- It's **OK** to tap a pencil, shake your foot, or hold on to something while learning.
- Use a computer to reinforce learning through the sense of touch.

Remember that you learn best by **doing**, not just by reading, seeing, or hearing.



Your results are shown graphically below:

Confident (in own ability to succeed)

This trait measures the extent to which you are confident in your ability to accomplish and achieve challenging tasks in the workplace. This trait assists employers to learn about your self-confidence in your ability to manage and outperform in the role. Self-confidence is one of the most important indicators for success in the workplace. Therefore, most employers regard it as one of the most important factors in making a selection decision.

Your result implies that you believe that you have the intelligence, ability and drive required to achieve successful outcomes. You are confident in your ability to overcome hurdles and difficulties along the path to accomplishing your goals in the workplace. A high score in this trait indicates to employers that you are highly employable and are likely to be successful in your role.

RECOMMENDATIONS

Achievement Driven

This trait measures the extent to which you strive to achieve excellence and accomplish your goals. This trait assists employers to learn about your inner drive and ambition for excellence in the role. Employers are interested in taking onboard people who have an ambition to excel in what they do. It reassures the employer that you will invest all your efforts to achieve your work-related goals. Although some do not look favourably upon people with an extreme drive for excellence, most employers do.

Your result indicates that you are likely to have an inner drive and ambition to do your best to achieve successful outcomes in the workplace. Nevertheless, you are more interested in completing the tasks assigned to you than achieving excellence in what you do. It doesn't mean that you will not invest effort and energy to accomplish the task at hand; it only means that your priority is to get it done well rather than to achieve the best result that you can.

RECOMMENDATIONS

In our complete personality report, you will learn about your entire personality traits and which of those you should emphasise relevant to the role you applied for. For example, if you applied for a commerce role, you may find it useful to know whether employers will regard your personality traits as suitable to manage stakeholders, working in teams, etc. All this information and much more is offered when you take the complete practice personality test online.

In case you wish to discuss your results and other concerns with a professional, please check out our one-on-one coaching service with IPC's organisational psychologists. Our psychologists will personally review your job application, identify your relevant personality strengths, work with you on how to emphasise your strengths and improve your weaknesses, build your confidence, and make sure you are ready to take the real personality test.

Your score & suitability for the role:

Unsuitable			Suitable				Very suitable		
1	2	3	4	5	6	7	8	9	10

Scores in the green area represent high suitability

Your score & suitability for the role:

Unsuitable			Suitable				Very suitable		
1	2	3	4	5	6	7	8	9	10

Scores in the green area represent high suitability

David- David's personality tests show that he cares a lot about people, he is empathetic, Moreover, he is dedicated, hardworking and energetic, these especially will be helpful when doing the assignment, since hard workers always give their best when needing to hand something in. David is also creative, which comes in handy when selecting the project idea, as well as coming up with the uses of such idea.

Mediator Personality INFP-A/INFP-T

Your Scores:

- [Printer Friendly Version](#)

Tactile

Here are some things that tactile learners like you can do to learn better:

- Remember that you learn best by **doing**, not just by reading, seeing, or hearing.

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Creative Problem-Solving Test

Summary	Intro	Graphs	Detailed Results	Strengths & Limitations	Advice
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Snapshot Report

Openness to Creativity 78

0 10 20 30 40 50 60 70 80 90 100

Your responses indicate that you are generally not afraid to let your imagination run wild when problem-solving. You seem to realize that, while rules and conventions have their place in the process, they can be restrictive when coming up with innovative solutions. Therefore, although you won't immediately reject solutions that have worked in the past, you'd rather not have them be your only option. People who score similarly to you tend to be "out-of-the-box" thinkers who like to toy with different ideas, pushing beyond the boundaries of standard ways of thinking and doing things. They aren't opposed to taking risks or testing solutions that are "off-the-wall" or that don't have a proven track record. Although there's generally nothing wrong with taking a more practical approach to problems (and in some cases, it may be the best option), using it as the only method does impose some limitations. By taking that step outside your standard way of thinking and expanding your imagination, you'll not only be able to increase your options but may end up uncovering ideas that had never crossed your mind before!

Want to learn more?

Psychology Today [Find a Counsellor](#)






[http://psychologytoday.tests.psychtests.com/bin/transfer#content1](#)

Ryan - Ryan's personality tests bring out his introverted side, this could be a problem, however there are many extraverted members of the group that can will make him feel comfortable, hence this should not be a problem. Moreover, Ryan is the only member of the group that is more observant than intuitive. This will come in handy, because he can see things the way they really are, he acts on what he observes, rather than what he feels is best.

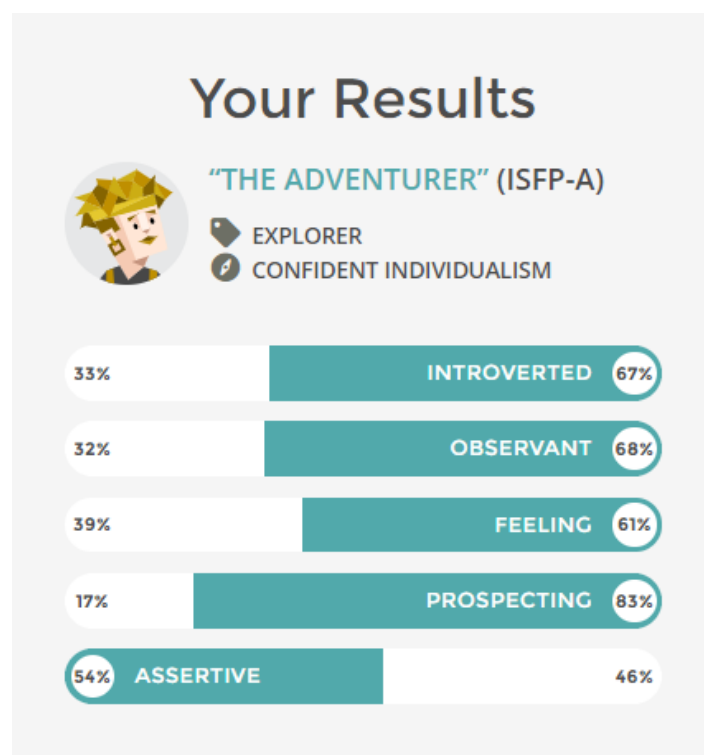
Auditory Learner

Results summary

Your results from the IPIP Big Five Factor Markers are in the table below. The table contains a raw score and also a percentile, what percent of other people who have taken this test that you score higher than.

Factor	Factor label	Raw score	Score percentile
I	Extroversion		45
II	Emotional stability		81
III	Agreeableness		40
IV	Conscientiousness		9
V	Intellect/Imagination		11

Big five personality trait scores calculated by openpsychometrics.org



Tom- The tests show that Tom is confident of his abilities, which always come in handy when you are working together with a group of people. He is also not overly extraverted, which might make him personally compatible with everyone.

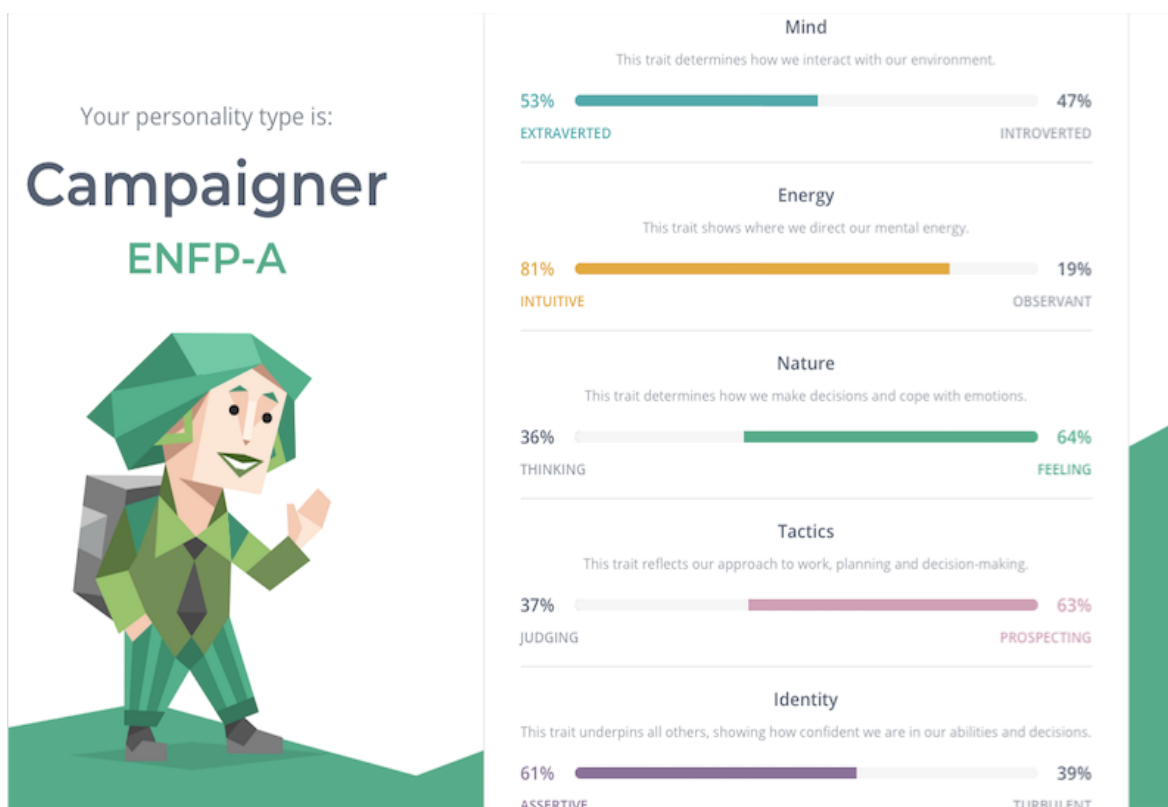
Your Scores:

[Printer Friendly](#)

- Auditory: 40%
- Visual: 40%
- Tactile: 20%

You are an **Auditory/Visual** learner! Check out the information below, or [view all of the learning styles](#).

Personality Trait	Opposite Strength	Similar Strength
Extraversion: 5.00		<div></div>
Agreeableness: 4.00	<div></div>	<div></div>
Conscientiousness: 4.00	<div></div>	<div></div>
Emotional Stability: 4.00	<div></div>	<div></div>
Openness to Experiences: 6.50		<div></div>



Clement- Clement is really extraverted, which can come in handy with other members of the group that are introverted. Moreover, he is extremely prospective, with his approach to work which is the same as to most members of the group.

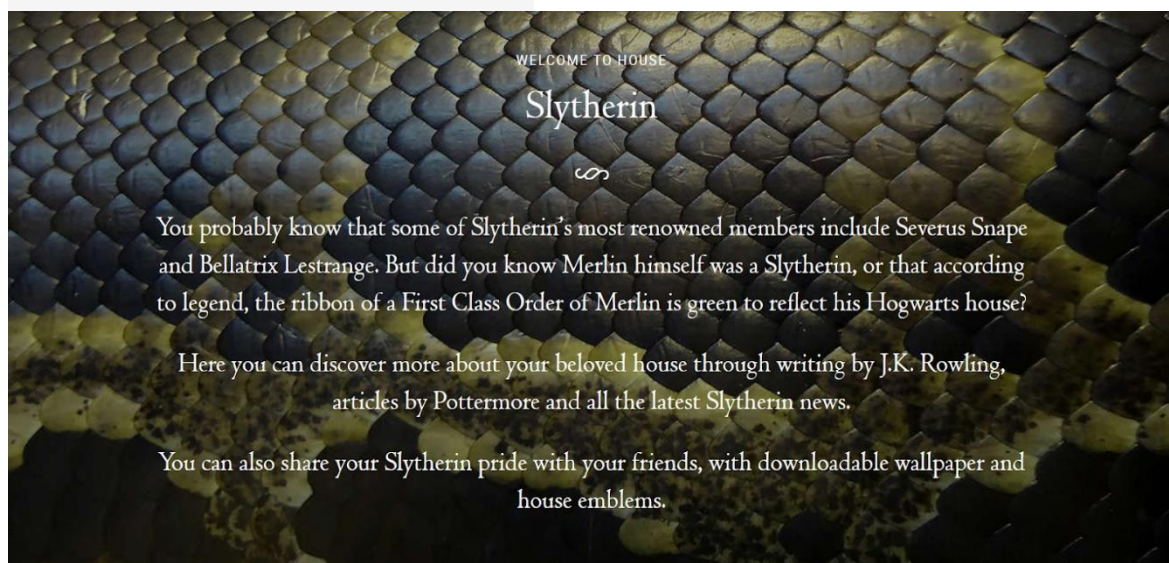
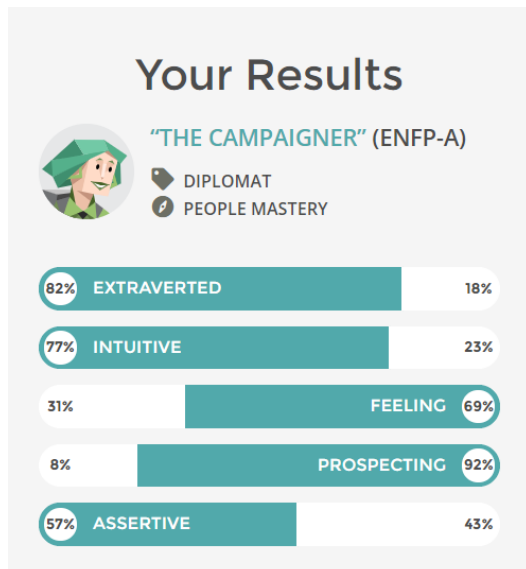
What's Your Learning Style? The Results

Your Scores:

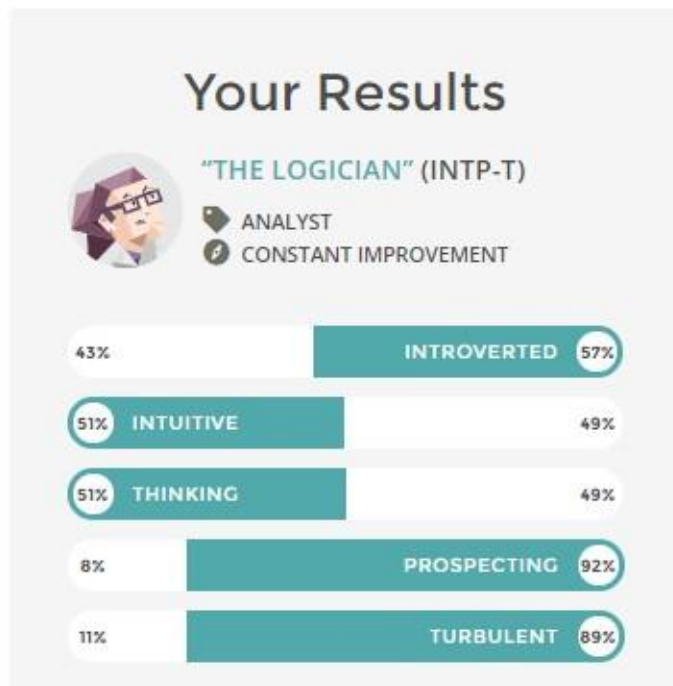
[Printer Friendly Version](#)

- Auditory: 35%
- Visual: 35%
- Tactile: 30%

You are an **Auditory/Visual** learner! Check out the information below, or [view all of the learning styles](#).



Kenneth- Kenneth is introverted, which shouldn't be a problem, since there are many members of the group who are extroverted and will make sure he fits in well. Moreover, he is turbulent, meaning he is not overly confident on himself. Kenneth was not made to work in a group, but hopefully the extroverts of the group will make him feel comfortable to come out and work collaboratively.



Your Scores:

- Auditory: 30%
- Visual: 30%
- Tactile: 40%

You are a **Tactile** learner! Check out the information below, or [view all of the learning styles](#).

Sam- Sam is introverted, which shouldn't be a problem, because there are many extroverts on the group that love to make others feel welcome to express their opinions. Moreover, like Kenneth he is also very turbulent, meaning he is not confident. Additionally, Sam is idealistic, which should come in handy when working on our project idea.

Your Test Results

Thank you for completing our personality test! Here is a copy of your results:



Personality type: [“The Mediator” \(INFP-T\)](#)

Individual traits: Introverted – 64%, Intuitive – 62%,
Feeling – 64%, Prospecting – 75%, Turbulent – 96%

Role: Diplomat

Strategy: Constant Improvement

Link to your profile: <https://www.16personalities.com/profiles/5427bbfd55d79>

You can also access your profile on our [website](#) by using the combination of

What's Your Learning Style? The Results

Your Scores:

- Auditory: 30%
- Visual: 35%
- Tactile: 35%

[Printer Friendly Version](#)

You are a **Visual/Tactile** learner! Check out the information below, or [view all of the learning styles](#).

Visual

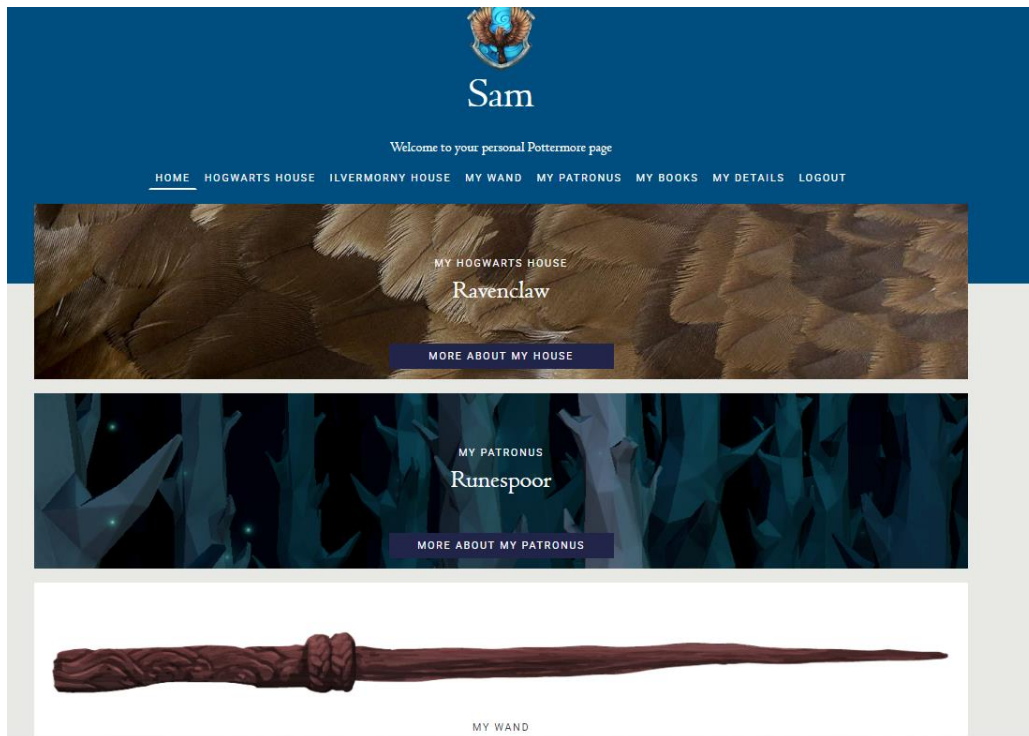
If you are a visual learner, you learn by reading or seeing pictures. You understand and remember things by sight. You can picture what you are learning in your head, and you learn best by using methods that are primarily visual. You like to see what you are learning.

As a visual learner, you are usually neat and clean. You often close your eyes to visualize or remember something, and you will find something to watch if you become bored. You may have difficulty with spoken directions and may be easily distracted by sounds. You are attracted to color and to spoken language (like stories) that is rich in imagery.

Here are some things that visual learners like you can do to learn better:

- Sit near the front of the classroom. (It won't mean you're the teacher's pet!)
- Have your eyesight checked on a regular basis.
- Use flashcards to learn new words.
- Try to visualize things that you hear or things that are read to you.
- Write down key words, ideas, or instructions.
- Draw pictures to help explain new concepts and then explain the pictures.
- Color code things.
- Avoid distractions during study times.

Remember that you need to **see** things, not just hear things, to learn well.



IT Technologies

Autonomous vehicles

What does it do? What is the state of the art of this new technology? What can be done now? What is likely to be able to do be done soon (say in the next 3 years)? What technological or other developments make this possible?

An Autonomous vehicle is essentially any means of transportation that can drive itself without human control. Most autonomous vehicle systems create and maintain an internal map of their surroundings using a wide array of sensors. After this Software then processes those inputs, plots a path and sends instructions to the vehicle. There are five levels under which self-driving vehicles are categorised. Level 1 includes vehicles that can control itself to any degree based on information it gathers about its surroundings (e.g. lane assist). Level 2 includes vehicles that can drive completely on their own in specific situations with the driver attentive (e.g. self-parking). Level 3 includes vehicles able to drive down a specific path, however they do not include failsafe and thus need human drivers to be attentive. Level 4 is the same as level 3 however it

also can handle scenarios outside of its limits by avoiding the situation. Level 5 vehicles are always in control of themselves without any necessity for human interaction. Currently the closest thing we have to a level 5 vehicle would be Google's 'Waymo', which is a level 4 vehicle and thus is capable of fully autonomous driving in many modes, as long as a human is present.

The two approaches to autonomous vehicles are Vision Sensors+Deep Learning and Lidar +Maps. The first approach, Vision Sensors+Deep Learning, allows for the highest resolution information, ability to scale and learn using masses of data collected by the vehicles to construct better neural networks, additionally Vision is cheap. The second approach, Lidar+Maps involves mapping a particular set of roads with accurate sensors to allow autonomy, this approach is expensive and non-scalable/does not learn over time. Elon musk has said that "Lidar is doomed" due to the fact that it is more expensive and in the near future will be far less effective given the inability of scaling and deep learning.

Many people are optimistic about a near future for autonomous vehicles, Elon Musk for instance said that by 2020 Tesla's autonomous system will have improved to the point where drivers will not have to pay attention to the road. 2020 appears to be looking a big year for automated vehicles as that is also the year whereby Tesla's Semi truck (which is a self-driving electric tuck) will begin production. Elon Musk has also said that "All Tesla cars produced now are capable of Full Self Driving" implying that the hardware component of Tesla cars is capable, and it is just the software that needs to be improved to allow this to happen. This is thanks to the newly produced FSD chip which will allow Tesla, with updates to be able to achieve level 4 and level 5 autonomy in their current vehicles. Another likely possibility for the future of Autonomous vehicles will be the usage of self-driving cars in taxi services. Companies like Uber are already producing autonomous vehicles for trial and Tesla plans to create a taxi service using all of its cars, allowing the owners of the car when not using the car to set the car into taxi mode whereby it will join a fleet of tesla Taxis allowing the car owner and Tesla to make money. The ultimate aim of autonomous vehicles is level 5, in that they will be able to analyse everything around them, in any terrain and in any situation in order to drive safely and effectively.

The emergence of the 5g network system will no doubt enhance self-driving cars, allowing for vehicle to vehicle and vehicle to everything connectivity, thus vastly improving the safety and integration of autonomous vehicles into our society.

What is the likely impact? What is the potential impact of this development? What is likely to change? Which people will be most affected and how? Will this create, replace or make redundant any current jobs or technologies?

If and when autonomous vehicles are implemented in society, there will no doubt be many impacts. The change from standard vehicles to autonomous vehicles is thought of as being as big of a change as the change from horses to vehicles was a hundred and so years ago. The whole entire road network structure will change as a result of this, changing numerous rules and regulations for instance the producer of learning to drive will obviously be vastly different. One of the main benefits of autonomous vehicles on the roads will be that the number of road deaths will decrease due to self-driving vehicles being vastly safer. As for the effect on jobs this is clearly going to take away many. 2020 presidential candidate Andrew Yang is actually running his campaign on this fact that the number one most common job in America (being a truck driver) will be taken away due to autonomous vehicles being a cheaper and more effective solution (as they don't need sleep thus can constantly make deliveries). Additionally, Taxi drivers will lose their jobs given that the likelihood of automated taxis in the very very near future. The amount of jobs lost due to this will be enormous but there will be a few jobs created as well. For instance, more computer programmers working on developing software will be necessary as the usage of these vehicles increases. Additionally, more engineering jobs will be created to manufacture and improve the vehicles themselves. Although there a lot of job loss that is no reason to hinder innovation and the potential amount of lives which could be saved and improved each year through the widespread implementation of automated vehicles in society.

How will this affect you? In your daily life, how will this affect you? What will be different for you? How might this affect members of your family or your friends?

The implementation of automated vehicles in society will only end up affecting me positively. It will allow me to drive safer, meaning a lower chance of me dying which is quite a good thing. The implementation of self-driving taxis will also be beneficial as it will allow me to not have to communicate with someone I don't want to communicate with and simply get to my destination as quickly as possible whilst having my own space. It will make me more likely to somewhere if I don't have to be focussed whilst driving and can multitask. It, through increasing jobs in programming fields, will give me even more job opportunities. It will also get rid of the need for a designated driver whilst drinking alcohol, allowing more people to have more fun! As for the effect this will have on my family and friends, it will also allow them to be more productive (as they can accomplish other tasks instead of focussing on driving) and allow them too to be safer on the roads. Overall, I see automated vehicles to only provide positive effects into my life (as I do not know any truck or taxi drivers, nor did I ever want to pursue that way of life).

Machine Learning

What does it do? What is the state of the art of this new technology? What can be done now? What is likely to be able to do be done soon (say in the next 3 years)? What technological or other developments make this possible?

Machine Learning is the use of algorithms and statistics by computers to effectively perform a specific task without using explicit instructions, it is seen as a subset of artificial intelligence. The algorithms build a mathematical model based on sample data in order to make predictions and decisions without being programmed explicitly to perform the task. Machine learning is currently widespread and used in many everyday situations such as email filtering and online advertising. One of the best machine learning computers at the moment is Google Deepmind's 'AlphaZero which was able to beat the previous best system AlphaGo after a few days of playing against only itself. Machine learning improvements have been on a steady and consistent uptrend over the recent years and it is looking to continue on that pathway for the foreseeable future. The future of machine learning will allow enhanced personalisation with the final fine tuning of the algorithms that are used to personalise use of programs as well as the personalisation of advertisements. Advertisements is probably where the majority of machine learning we encounter on a daily basis is, due to the fact that it is so beneficial at having personalised advertisements to make companies more money, and where there is more money to be gained that is where more money will be spent. Potentially quantum computers could be integrated into machine learning in the near future, allowing for increased speeds of processing data to provide faster computation to both supervised and unsupervised algorithms. Improved cognitive services (which allow applications to carry out duties such as vision recognition, speech detection and speech understanding) are likely to be coming in the near future of machine learning. As this technology evolves, we will see development of more intelligent applications that can increasingly speak, hear, see and reason with their surroundings with a reduced chance of error/misunderstanding. Also, and most importantly the improvement in machine learning will see increased usage of robots as it will allow robots to become more intelligent at accomplishing tasks e.g. Drone deliveries. The technology needed to make this happens seems to already be here and that all that is necessary is improvement in the coding and algorithms which naturally compound. Machine learning essentially is vital for the future success of most exciting technological innovations and creations coming in the near future. Another example that is currently being developed is the use of machine learning in medicine. This involved collecting large amount of medical patient data and analysing it to find similarities to garner greater insight into what may be the cause of many illnesses. Improvement in the

machine learning in the medical field would allow a greater ability to predict if someone's risk of disease.

What is the likely impact? What is the potential impact of this development? What is likely to change? Which people will be most affected and how? Will this create, replace or make redundant any current jobs or technologies?

Machine learning, and its evolution in the future will have positive impact in almost every field. Everything which uses large data is likely to improve. Intelligent Gaming for instance will improve with better more capable ai that can play games more like a player for a better experience. Self-driving cars and automated transport will improve and become the norm of transportation, improving road safety and efficiency. Robots given better machine learning algorithms will be able to take over dangerous jobs in society e.g. welding. Enhanced health care, with better and faster diagnosis of disease and sickness. Greater personalisation of advertisements in all media to make users have a more impactful and personally beneficial experience. Customised news, entertainment and music based on better machine learning to greater personalise these services to the user. All of these things are inevitable and imminent. This will be beneficially most of all to the users of all these services. It will be a negative thing however potentially to some jobs which will become unnecessary given that machine learning in robots and programs does a better job than a person would for cheaper, an example of this being radiologists that read x-rays which machine learning programs will be able to do better in the near future given the limitation of the human eye and the unlimited power of computer intelligence. Also, improvements in machine learning would allow for better manufacturing robots with increased efficiency and effectiveness at completing tasks, allowing them to work without sleeping which could take the jobs of manufacturing workers.

How will this affect you? In your daily life, how will this affect you? What will be different for you? How might this affect members of your family or your friends?

For me, the greater implementation of machine learning in society and all aspects of it will be no doubt beneficial. As a user I will enjoy vastly superior services and experiences thus improving my quality of life and satisfaction. What it would change in my life is not particularly much, at least in the near future it would simply enhance all the things I do, it could be considered comparable to the invention of shoes, in that it doesn't particularly change what I would do, but it does enhance it by making the experience more enjoyable, efficient, effective and safer. The increased personalisation of programs and even advertisement I find to be beneficial as I enjoy being presented with things, I find interesting therefore machine learning, allowing for greater

personalisation, would mean I would be presented with more interesting things thus increasing the satisfaction of my user experience. Additionally, improved healthcare and diagnosis through machine learning would be greatly beneficial to me, as it would allow me to potentially have easier and more affordable access to health care's services and testing which would allow me to live longer and healthier. For my family and friends who are working and or pursuing work in fields in which machine learning is likely to change the industry in terms of job loss, it could be negative to them personally. For example someone in my family is a radiologist, and if the machine learning algorithms became sufficiently accurate enough to be considered better than the opinion of a radiologist then that person would most probably lose their job or at the very least the core of what their job involves would change.

Cyber security

“Cyber security is the state or process of protecting and recovering networks, devices, and programs from any type of cyberattack.”

<https://us.norton.com/internetsecurity-malware-what-is-cybersecurity-what-you-need-to-know.html>

The term applies in a variety of contexts, from business to mobile computing, and can be divided into a few common categories.

Network security is the procedure of protecting a computer network from invaders which might target your specific data or opportunistically get into the network with malware. Examples of network security include VPNs, behavioural analytics, email security, application security, firewalls, access control, intrusion prevention systems, network segmentation, mobile device security and antiviruses.

Information security is about protecting the privacy and authenticity of data in transit and in storage.

Application security involves, keeping software secure and thus in turn devices free of threats using other software and hardware methods. An application which has been compromised could provide access to the data its designed to protect. The types of application security include firewalls, encryption programs and antiviruses.

Operational security is about the way data assets are handled and protected. The protocols that determine how and where data may be stored or shared, and the level of access users have. Operational security policies should be in place which are clear guidelines on what operators are allowed to do and what they are not allowed to do, what they should do if something goes wrong and what the disciplinary actions may be in the case of an breach The policy also acts as a deterrent against deliberate misconfigurations.

Cyber-attacks may come in the form of stealing your personal information or credit card details which they may sell outright on the dark web or attempt to extort money from you directly.

Attacks may target lowering the public's view of a company's integrity, where the cybercriminal will release sensitive information otherwise known as a leak which may make people lose faith or trust in that organization or to simply put information that the company doesn't want out yet about a product. Another type of attack is one where the cybercriminal will infiltrate your network and block you from accessing the data until you pay a ransom. Malware is one of the ways cyber criminals could take your data without your knowledge through the use of keyloggers which remember what buttons you press to enter your passwords or other spyware.

You can protect yourself by only putting bank/ card details into websites that have the start with https instead of http and by not pressing on links from emails if the sender is not known. You could also download an antivirus to protect yourself from malware which can do file checks on downloads your system in order to protect it. Regularly backing up one's files is also a good way to stay safe.

A state of the art way form of cybersecurity is public key cryptography or asymmetric cryptography which is used to encrypt(or scramble) data so that it is only readable to someone who knows the specific way to decrypt(unescape) the data and thus messages or data can be kept secure when it is sent over the net. According to <https://www.globalsign.com/en/ssl-information-center/what-is-public-key-cryptography/> "Public key cryptography is a scheme of encryption that uses two different keys a public key and a private key which are mathematically related. The public key is used to encrypt the data and the private key is used to decrypt it", "as It is computationally infeasible to compute the private key based on the public key" data can be kept safe. Computationally infeasible meaning it would take far too long to decrypt the data that it wouldn't be worth it like longer than a lifetime. It is important to note while there are other encryption methods that are quicker to decrypt, they are not as secure.

What is likely to change due to cyber security: likely changes within the industry of cybersecurity will be that phone spam will increase which may require cellular carriers to require a feature where only contacts can call them or specifically agreed upon numbers. It is also likely that there will be more data leaks from companies and people will be pushed to create bigger and bigger passwords or use password managers. More companies would likely move their data onto cloud networks or at least backup their data on the cloud as service provider environment customers data receives less attacks than if it was on your own hardware according to

<https://searchcloudcomputing.techtarget.com/opinion/Clouds-are-more-secure-than-traditional-IT-systems-and-heres-why>. There will likely be a higher demand for cyber security skills and an increase in jobs that involve teaching or training the staff of companies' cyber security skills. More

The increase in phone spam, data leaks, malware will likely push me to use a password manager so that I can have different passwords for everything and more secure passwords. I will definitely start using bigger passwords. The increase in the quality of cloud storage may make me or friends/family switch to using that for some things due to the security aspect. Furthermore, I may see more of my friends or family get jobs which have something to do with cyber security in the future. People in general will likely get smarter at dealing with these phishing attacks as they will probably be more prominent and so scams will also improve.

Robots

The Robotics Industry Association (RIA) defines a Robot as a “reprogrammable, multifunctional manipulator designed to move material, parts, tools or specialized devices through variable programmed motion for a variety of tasks.” There are many different types of robots which are often categorized by their features like what level of mobility they have or their level of intelligence. The categories that robots can be described as include cartesian robots, cylindrical robots, SCARA robots, parallel robots, articulated robots, spherical robots

Currently, robots are being most notably used industrially i.e. for the purpose of manufacturing goods. This is happening all around the world. Some industries that have dramatically changed due to robots being implemented are the car industry and. The car industry utilizes robots for welding, painting and general assembly of the car which may include tasks like windshield installation.

Robots have many properties that make them desirable workers. They do not need breaks, can consistently produce higher quality goods as they don't get tired, distracted or drop things and can protect people by doing dangerous jobs that they would otherwise need to do. Robots currently can take over many repetitive tasks that humans can do and even mimic the movements of animals. Tesla cars could be considered state of the art with their option of autonomous travel which can be better than humans in some scenarios. Kengoro is one of the most advanced state of the art robots there are with the ability to mimic many human movements like pushups, pull ups and hitting a badminton birdy. Furthermore, the robot sweats like us in order to cool down as there is no room for any other cooling system with all of its motors taking up a lot of room.

Some of the Tasks that robots complete in each industry are listed below:

Entertainment: robots are being used for entertainment in things like simulation of video games, specifically car games and aircraft flying games where your sitting in a chair that moves and responds to what's happening in gam, the same happens in some arcade VR machines where the machine or seat emulates you being on a rollercoaster or in a boat going down the rapids of a river.

Health care: in health care robots like DaVinci which a state-of-the-art robot is manned by a surgeon are used to operate on patients with more precision and with just a few tiny incisions which results in less bleeding and a lower chance to get an infection. Along with this there are exoskeletons being developed which can help people with spinal cord injuries walk, today.

Food preparation: some of the applications of robots in the food preparation industry include picking fruit and choosing which are okay to be sold, washing and cleaning produce and robotic butchery of chickens, cows and other animals which can be dangerous as saws have to be used.

Military: some of the uses of robots in the military include bomb defusal robots, along with unmanned tanks, unmanned patrol boats which have been used for to combat piracy and unmanned drones which are used for surveillance and air support for military operations. Along with this robot are also being used to improve the skills of the pilots of aircraft as there are machines which simulate what being in that situation would feel like.

Technological advancements in robots coming within the next 3 years include the improvement in autonomous vehicles and delivery drones as a 5g network is rolled out. This may lead to drone delivery becoming more considered as a means of food delivery and perhaps it will become the main way food or other things are delivered. 5g is necessary for improvements to automated vehicles as the data that is being sent from the cars to the network is used to improve the cars and a faster network will be needed to manage, collect and sift through the data to decide on what to do within a given situation in the span of a few milliseconds.

The likely impact of constantly improving robots or the increasing industrial mechanization in the future is that many unskilled job positions will be eliminated. However along with this business will be able to produce goods quicker and with higher quality and the quality of living with likely increase as well. Many skilled jobs will be created as a result of this occurring as people will needed to repair, program and maintain these machines. As a result, there will likely be less jobs out there with physical activity involved or required which will likely lead to society getting more depressed as a whole. The people that will be most affected by this development are manual laborers and

unskilled workers or just people who have a job that is very repetitive as their jobs or they themselves will likely become redundant. However, it is likely that the advancements in robots will create jobs as these robots will still need to be created, programmed and maintained. A potential impact of robots improving and taking over manual labour jobs is that society as a whole gets more depressed as people are doing less physical activity which results in less dopamine and endorphins being released in their brains. Another potential impact of this is that people live longer as the robots can assist in medical procedures or curing cancer if nanobots are improved enough to be able to do that.

How this will affect me: family members may lose their jobs and maybe be required to learn how to do different jobs which could result in my or other families not being able to pay bills for a while and maybe we might even have to sell some assets to be able to survive if a large portion of “unskilled” work is taken over by robots furthermore in the far future in my daily life I might see things like houses or buildings being fully constructed by robots in a couple of weeks or more and maybe instead of biological pets kids start having mechanical robots as pets. Robots may take delivery jobs over and my pizza might be delivered by a drone who drops it in my hands as I’m having a beer in the backyard. I’d assume that younger generations of kids would have to stay in school or university for longer as maybe the jobs in the future require more knowledge and training. Maybe people will have to go to university more times in their life as things advance rapider than ever. Many of my family or friends might end up doing jobs that require creativity over physical skill like being comedians, artists, writers, music producers etc.

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Project ideas

Text based role-playing game.

One of the biggest challenges our group faced was that we struggled to find a project idea that we could all contribute equally. We have a wide variety of skills without a super amount of depth. This led us to hypothesise ideas that we could all contribute creatively while the few that had the skills in coding could help facilitate the other group members. We went through many ideas that involve many different ideas such as creating a reddit alternative for sports interested people or even an NBA stat analyser that recommends games to watch. Even with all these different ideas the ultimate idea that we all came to agreement on was a text-based role-playing game.

Text based games is said to have originated in the 1960s and reached peak popularity in the 1980s. A variety of people were consulted in what features they would want in a text-based game. Some of the suggestions were to include a storyline that can have a positive impact in teaching people about emerging technologies, disadvantages for people in third world countries or even teaching people about global warming and how to

lower their impact. This can make the game be more than just a game, as it will have a positive impact on people and not just a mindless use of time.

Each group member can write a different section of the game, allowing for many pathways and for each group member's individuality shine through the project. As it is an RPG there are many different pathways the character can go down. This allows for a more even split of the workload between all of our group members when compared to the other project ideas we came up with.

The game will be written in Java because all of the group members have experience with the language. This is because all of the group members are learning about Java from the "Introduction to Programming" class. Using a programming language allows for a more even split of the workload. This is because if the game was to be written in a language that only one of the members knows how to write in would mean that one group member would end up doing a majority of the work out of sheer necessity.

The game will be very modular as every group member will be in charge of their module of the game. This allows the game to be changed and mixed and matched somewhat easily. A pathway that the game can take can be created before the start of the actual coding development of the game is created.

Ideal Jobs-

Juan

Job Title - Senior web engineer

Responsibilities:

- Create website and other online application from scratch.
- Meet with clients to discuss the website
- Train and mentor junior web engineer

- Supervise the web engineer and test their created websites.

Having looked at the Burning Glass data, has your opinion of your ideal job Changed? Why or why not?

No, I believe that the burning glass data did not change the opinion of my ideal job. I agree that its propositions do pose an interesting and appealing point, however I am passionate about the ideal job that I chose. It's related to coding, plus it's connected to the sport that I love; hence I believe that the burning glass data does not change my opinion.

David

Job Title - Senior/Mid Front-end developer

Responsibilities:

- Supervise the activities of the junior front-end developer. Handle collaboration with designers, developers and product owners.
- Identify the latest technology in order to improve the site/software system.
- Review code and decide whether it is reusable.

Having looked at the Burning Glass data, has your opinion of your ideal job Changed? Why or why not?

Ryan

Job Title - Senior Web developer

Responsibilities:

- Identify requirements of user and system for new website and application.
- Set objective and assign tasks to junior web developer.
- Supervise and mentor the junior web developer.
- Ensure software documentation is updated.
- Handles collaboration with other developers.
- Write and review code for various applications.

Having looked at the Burning Glass data, has your opinion of your ideal job Changed? Why or why not?

After looking at Burning Glass data my opinion of my ideal job has not changed. This is because my ideal job isn't necessarily to be static working in some web development job that I find boring I would want to work for companies and with projects that interest me.

Tom

Job Title - Mid Audio Engineer

Responsibilities:

- Setup and test sound equipment's before events, recording, or broadcast.
- Create and maintain sound library
- Enhance sound quality and add effects to recording.
- Deal with technical issues.
- Synchronize video with audio tracks.

Having looked at the Burning Glass data, has your opinion of your ideal job Changed? Why or why not?

No looking at the Burning Glass data did not change my opinion in wanting to work as general trend of a job, I am more concerned with doing what I feel is interesting to me, particular job, I can't really comment on it, although in the generic skills list problem something I have that will enable me to work and complete this particular job.

Sam

Job Title - Mid Audio Engineer (same as Tom)

Responsibilities:

- Setup and test sound equipment before events, recording, or broadcast.
- Create and maintain sound library
- Enhance sound quality and add effects to recording.
- Deal with technical issues.
- Synchronize video with audio tracks.

Having looked at the Burning Glass data, has your opinion of your ideal job Changed? Why or why not?

My ideal job has not changed as I'm looking to be an audio engineer as it is something I enjoy rather than the "most in demand" or "highest paying" since I think that you should do what you enjoy in life not just what's the "best." The data didn't have any rank for demand of audio engineers so I can't base it off of that but of the key skill ranked for audio engineer

communication(ranked 1) and problem solving(ranked 2) are high up there which are two things I think I do well at so that mainly encourages me to keep moving towards this goal.

Kenneth

Job Title - Mid Level IT Security Specialist

Responsibilities:

- Create access privileges, control structure, and resources.
- Identify abnormalities in the system.
- Implements security improvement if necessary.
- Contribute to the team.
- Prepare performance report.

Having looked at the Burning Glass data, has your opinion of your ideal job Changed? Why or why not?

No, the opinion of my ideal job has not change as I expected security to be in the top 50 and will keep on rising year by year. The specific skill for my ideal job is also in The top 3 most demanded technical skills which means that security is the perfect Job for me.

Clement

Job title - Mid Level Mobile App Developer

Responsibilities:

- Support the entire application life cycle.
- Improve UX by designing interfaces.
- Write and test UI to identify malfunctions.
- Stay up to date with new technology
- Produce mobile application by coding
- Troubleshoot and debug.

Having looked at the Burning Glass data, has your opinion of your ideal job Changed? Why or why not?

Not much, this is because the job that I am interested in is still in quite high demand. Also, the higher-ranking jobs are mostly related to SQL which I am not the keenest about. I feel more comfort and interest when operating with another programming language such as Java.

Industry Data

Job Demand Ranking:

Ryan's ideal job: Senior Web Developer - Rank 103

Juan's ideal job: Web Engineer - Rank 16

David's ideal job: Senior Front-End Developer - Rank 23

Clement's ideal job: Mobile App Developer - Rank 116

Kenneth's ideal job: IT Security Specialist - Rank 43

Sam's ideal job: Audio Engineer - Unranked

Tom's ideal job: Audio Engineer - Unranked

Required skill set-

1. Mobile App/Game Developer

General skills ranking:

- Communication Skills - Rank 1
- Teamwork - Rank 5
- Planning - Rank 7
- Creativity - Rank 9
- Time Management - Rank 12
- Quality Assurance and Control - Rank 15

IT specific skills Ranking:

- JavaScript - Rank 2
- Information Security - Rank 74
- Cloud Computing - Unranked
- Cross-platform Development - Unranked
- Internet of Things - Unranked

Highest rank general skills not in skill set:

1. Problem solving
2. Organisational skills
3. Writing

Highest rank IT skills not in skill set:

1. SQL

2. Microsoft windows
3. JAVA

2. IT Security Specialist

General skills Ranking:

- Communication - Rank 1
- Problem Solving - Rank 2
- Teamwork - Rank 5
- Troubleshooting - Rank 6
- Planning - Rank 7
- Critical Thinking - Rank 41

IT specific skills:

- SQL - Rank 1
- JavaScript - Rank 2
- Microsoft Windows - Rank 3
- Linux - Rank 9
- Python - Rank 20
- C++ - Rank 58

Highest rank general skills not in skill set:

1. Organisational skills
2. Writing
3. Detail-Oriented

Highest rank IT skills not in skill set:

1. JAVA
2. Building relationship
3. Microsoft C#

3. Web developer/Web engineer/frontend developer

General skills:

- Communication - Rank 1
- Problem Solving - Rank 2
- Teamwork - Rank 5
- Planning - Rank 7
- Creativity - Rank 9
- Leadership - Rank 11
- Mentoring - Rank 13
- Decision Making - Rank 25

IT specific skills:

- JavaScript - Rank 2
- HTML - Rank 17
- CSS - Rank 40
- Testing - Rank 87
- Browser Developer Tools - Unranked
- Command Line - Unranked

Highest rank general skills not in skill set:

1. Organisational skills
2. Writing
3. Troubleshooting

Highest rank IT skills not in skill set:

1. SQL
2. Microsoft Windows
3. JAVA

4. Audio Engineer

General skills:

- Communication Skills - Rank 1
- Problem Solving - Rank 2
- Organisational skills - Rank 3
- Teamwork - Rank 5
- Creativity - Rank 9
- Management - Rank 19
- Multi-tasking - Rank 20

IT specific skills:

- SSL Duality 48 Channel consoles - Unranked
- Pro Tools HD DAWs - Unranked
- Neuman and Moyer mics - Unranked
- Outboards - Unranked
- Lab distressors - Unranked

Highest rank general skills not in skill set:

1. Writing
2. Troubleshooting
3. Planning

Highest rank IT skills not in skill set:

1. SQL
2. JavaScript
3. Microsoft Windows

IT Professional Interview

Interview Objective: To get some insight into the day-to-day working life of the interviewee.

Interviewee Name: Mr. Julius Wendra Lea

Position: Chief Executive Director

Companies:

1. PT. Password Solusi Sistem
2. PT. Password Retail Sistem
3. PT. Festino Indonesia

Interview:

1. What exactly it is that you do, on the IT side of things?

As a CEO, the job description is more of a leading role and deciding the directions in which the company will go. It includes thinking about the business as a whole and about which products/services to provide. Needs to know the IT business trend, 10 years ago virtualization trend: leading brand is VMware so becomes the partner in Indonesia. Hardware, starting out as server, storage and virtualization and then there is a new technology called hyper-converge. Analyse the technological changes (usually starting from the US) and then select the proper products to provide. For example, the current era has more importance in cloud bcs customers are starting to ask about cloud. Role: steering the business to a sustainable and avoid selling the same products over and over and then becoming redundant. Company started (2010-2015) out as an infrastructure (no applications) and then recently acquired new partnership as the Indonesian carrier for a technology from Germany called CS ERP (2016). Diversification and improve portfolio. Training people to be skilled in the current areas and also expand into newer areas.

2. You previously mentioned a few times about the changes in the industry, so would you agree with the statement that the IT industry is an ever-shifting industry? How would you describe the industry?

Agrees with the statement that the industry is always changing and shifting. The IT industry is described as being fast changing, with new

technologies and new companies entering the scene all the time. New competitors both old and young be it a company that recently got bigger through an acquisition or merger and also start-up companies. Therefore, the IT industry is a very challenging and competitive place to be in. Entities have the need to figure out new creative ideas and also solutions to problems. The industry is not a place for redundancy, entities without adaptability who keeps on doing the same things over and over will be replaced by those that are more innovative.

3. What other kinds of work do you have to do?

Besides leading the three companies and giving directions. Day to day work includes managing the cash flow and finances for projects. This includes finding clients and sometimes going to the bank to arrange bank loans. Other things are usually meeting with principals and distributors to discuss about new projects and manage existing relationships. Coaching and counselling for managers on leadership roles is also an important part of work. There are also business reviews with the company's managers to both track the companies' progresses and to also monitor the employees' performances. Other tasks include the handling of some recruitment processes.

4. Who are all the different people you interact with in your work? Please tell us about them.

During the early days of the first company, usually meets customers. Nowadays, meetings with customers are handled by other people. Therefore, the meetings with customers are limited to the customers with important relations such as the companies where there is a direct relationship with the owners. Work interactions also includes meetings with principals and distributors. There are also the meetings with clients. Usually, when approaching a client, it is to try and sell products or to test out new business opportunities.

5. How does your meeting with other IT professionals usually go?

Vendor usually approach to offer products and services. Then it will be taken into consideration whether or not the products or services fits the company well and how to go through with selling those products or services if it is indeed suitable.

6. What about your interactions with clients or investors?

New clients are approached, usually to see what they need and offer the solutions that might help them. Also, pre-existing clients are kept in touch with, usually to inquire about the presence of faults in a previous transaction and to ask the clients' opinions as to how the provided solutions can be improved.

Since the company is a self-investment, there are not many interactions that is being done with the investors. In the start-up days, the investors

would talk amongst themselves about finances, usually when customers haven't paid, and the projects need money.

7. What aspects of your work do you spend most time on? Please tell us about these.

Meetings and discussions are what takes most of the working hours. Recruitment was also time consuming before the existence of the HR department. This is due to the fact that it takes a long time to find the right candidate for a certain position or job.

8. Which aspects of your work do you find most challenging?

Managing cash-flow. Project has to be paid in advance of the customers paying the company after the project has already finished.

Negotiating the terms for projects.

Managing people, especially managing good people, as in how to not lose a good employee. The steps taken towards this direction includes self-appreciation. Instead of only increasing salary, the company also gives compensations such as trips for good achievers. The working atmosphere is also really important, office-boys and drivers were also included as part of the trip to increase the overall happiness in the working areas.

9. Finally, can you share an example of the work you do that best captures the essence of the IT industry?

Adapting and figuring out ways to stay competitive on a daily basis because the IT industry is always changing.

The positive side of working in IT is that it is not boring because it requires creative thinking to face the shifting challenges. Therefore, it is not monotonous

Group Reflection

Sam- Something that went well this assignment is how cooperative we all were once we actually started the assignment. The key thing that would have made this assignment better would be if we had actually started it early enough, as this would have resulted in less

stress. It was surprising at how fast everyone managed to get their work done and agree on what work to do. The main thing I have learned about group projects is that someone needs to speak up early about getting started on time or else everyone just delays and forgets.

Tom- What went well in this assignment was how smoothly and without conflict we were able to distribute the workload of this assignment. What could have possibly been better would have been if we had started working on the assignment sooner. One thing that I found surprising working on this assignment was how easy it actually was to collaborate effectively with people on short notice when we were all under the pressure of time to finish the assignment. One thing that I have learned about groups during this process is that when groups divide workloads clearly and give clear instructions it can make completing a task far easier.

Clement - The members were very cooperative. The distribution of work was done really quickly, and everyone actually did the part that was assigned to them. Teamwork was also great because the group members helped each other out in parts that the others were having problems with. Communication was also good because everyone came to the tutorial classes and informed each other a lot about the parts that are still lacking in the assignment. The only drawback that the group faced was not starting early enough.

Ryan - All of our group worked very well, and everyone interacted very positively with each other. The lack of bad blood between members made working in the group very easy. Every group member was willing to help the other members with any issues that they ran into. The main negative is that we waited a bit too long before starting the assignment, but this is also led to a kind of comradery between the members and we worked very well together after the fact.

Group Response:

As a group we found that when we get to it, we mesh quite well in the setting of a group task, in terms of assigning work and completing designated tasks by the time requested within the group. We communicate well and provide feedback and advice on sections of the report as well as aid each other when a group member becomes stuck. Each member appears to understand that they are not

only affecting their own grade but each other's and as such we believe this has led to everyone's dedication to get it done on time up to a somewhat decent standard. However, we do also understand from this project that a lot of us are procrastinators who put work off till quite late. We started this project far later than advised and far later than any of us would like to repeat. It has been a valuable learning experience about the dynamic of our group and that to produce work to a standard we know we are capable of for assignment three we need to apply ourselves to the task far earlier. We believe the lack of urgency in completing assignment two was due to forgetfulness and being unwilling to be the first person to bring up starting the assignment, and this weekend has taught us all that we would very much like to not repeat this experience of last-minute dash. We do all agree however that we are surprised at how fast we were able to designate and complete tasks. Due to our late start and inexperience with GitHub repositories we did not utilise it as effectively as we could have for sharing and working on this project together. The log does however accurately represent the time at which we started the project with most of the activity being done the Saturday and Sunday of the due date. We found that collaborating on a google doc was more advantageous for our short time frame for collaborating on sections of the report and viewing each other's work