Assessment 2 Group 4

TECH ELITES
Authored by:
Jon, Aaron, Rav
Dane, Damian, Jaime

Introduction

Team Members

Welcome to Tech Elites Assessment 2 report.

In our group we have the following members;

- Jon
- Rav
- Aaron
- Dane
- Damian
- Jaime

Follow this link to our group website for our team profile.
https://techelite-rmitstudent.github.io/

Follow this link to our group website for the GitHub repository.
https://github.com/techelite-rmitstudent/techelite-rmitstudent.github.io.git

Follow this link to our group GitHub Repository for our team group assessment files.
https://github.com/techelite-rmitstudent/Assignment-2---Team-Project.git

- INDUSTRY DATA –

Case Study Report by:

Jon:
Software Solution Architect

Rav:
Network Engineering

Dane:
Senior Financial Adviser

Aaron:
Software Engineer
-Data Security Specialist

Damian:
Network Engineer
-Data Centre

Jaime:
Technical Support
System Administrator

Name: Jon
Ideal Job: Software Engineer/ Solution Architect
Also known as an application programmer, software architect, system programmer/engineer.

This job in brief: The work of a software engineer typically includes designing and programming system-level software: operating systems, database systems, embedded systems and so on. They understand how both software and hardware function. The work can involve talking to clients and colleagues to assess and define what solution or system is needed, which means there's a lot of interaction as well as full-on technical work. Software engineers are often found in electronics and telecommunications companies. A computing, software engineering or related higher degree is often needed.

What are the job titles for your group's ideal jobs? How does each of these rank in terms of demand from employers?
"According to Burning Glass Data, my ideal job is number 1 on the ranking and that motivates me but even more when my group members ideal job is in the top 20 ranking demand from employers meaning we can be a strong group as a whole"

TEAM	What are the job titles for your group's ideal jobs?	How does each of these rank in terms of demand from employers?
Jon	Software Engineer/ Solutions Architect	This job ranks 1st on Burning Glass
Dane	Senior Financial Planner	No related info as it's a different industry
Jaime	Systems Administrator	This job ranks 8th on Burning Glass
Damian	IT Consultant	No related info as it's not included in Burning Glass but the closest job this would be is Systems
Rav	Network Engineer	This job Ranks 9th on Burning Glass
Aaron	Software Engineer - Data Security Specialist.	This job Ranks 11th on Burning Glass

How do the IT-Specific skills in your required skill set rank in terms of demand from employers?
"From Burning Glass Data, I notice that I got only 5 Specific Skills on my Ideal Job from top 30 ranking and one skill is sitting down not too below but 3 Specific skills are not in the ranking at all"

How do the general skills in your required skill set rank in terms of demand from employers?
"From Burning Glass Data, I notice that I got all the General Skills in top 20 rankings, however, there are 3 General Skills that not in my Ideal Job"

Software Engineer / Solutions Architect	This job ranks 1st on Burning Glass
Specific IT Skill Required: • Microsoft C#: 5th • .NET: 7th • HTML5: 11th • JavaScript: 2nd • C++: 27th • Libraries: not in the ranking • Object-C: 86th • Cocoa: not in the ranking • WPF: not in the ranking	General Skill Required: • Communication: 1st • Organizational: 3rd • Analytical: 17th • Leadership: 11th • Team Work: 5th OTHER 3 General Skills not in my list: • Writing: 2nd • Problem Solving: 4th • Planning: 6th

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

"Yes, my previous opinion for my ideal job is whatever areas you may know in this field you will be fine in finding an employer but rather because from this data, I realized that there are some areas that are out of my skill sets which in most job posting is the majority of employer's requirements. However, it does not change my Ideal Job, as on this insight is guided me to focus on getting the most require skills as to be my target skill set."

Name: Rav
Ideal Job: Network Engineer
Their main role in the company is to design, implement and maintain the computer networks within a company.

As opposed to network administrators that handle more day to day support of the network, a network engineer focuses on high-level design and planning. By selecting the correct technologies and making sure they are implemented correctly, network engineers ensure a high performing network for all its users.

What are the job titles for your group's ideal jobs? How does each of these rank in terms of demand from employers?

"My chosen job title was Network Engineer which ranked 9th overall on the burning glass data. Our group consisted of the following job ranks: Software Engineer, Senior Financial Planner, Systems Administrator, IT Consultant, Network Engineer, and Software Engineer - Data Security Specialist. They rank 1st, outside of IT industry, 8th, 8th, 9th, and 11th respectively."

Jon	Software Engineer/ Solutions Architect	This job ranks 1st on Burning Glass
Dane	Senior Financial Planner	No related info as it's a different industry
Jaime	Systems Administrator	This job ranks 8th on Burning Glass
Damian	IT Consultant	No related info as it's not included in Burning Glass but the closest job this would be is Systems
Rav	Network Engineer	This job Ranks 9th on Burning Glass
Aaron	Software Engineer - Data Security Specialist.	This job Ranks 11th on Burning Glass

How do the IT-Specific skills in your required skill set rank in terms of demand from employers?

"The IT specific skills required for this job, by adhering to the skills from the burning glass data, are Microsoft Windows, Technical Support, Systems Engineering, and Oracle. They rank 4th, 11th, 24th and 19th respectively."

How do the general skills in your required skill set rank in terms of demand from employers?

"The general skills required by this job, according to the burning glass data, are Communication Skills, Problem Solving, Teamwork / Collaboration, Troubleshooting, Planning, Creativity, Leadership, Analytical Skills, and Multi-Tasking. They rank 1st, 2nd, 5th, 6th, 7th, 9th, 11th, 17th, and 20th respectively."

Network Engineer		This job Ranks 9th on Burning Glass	
Specific IT Skill Required:		General Skill Required:	
• Microsoft Windows -	4th	• Communication Skills -	1st
• Technical Support -	11th	• Problem Solving -	2nd
• Systems Engineering -	24th	• Teamwork/Collaboration -	5th
• Oracle -	19th	• Troubleshooting -	6th
		• Planning -	7th
		• Creativity -	9th
		• Leadership -	11th
		• Analytical Skills -	17th
		• Multi-tasking -	20th
3 highest ranked IT-specific skills:		3 highest ranked general skills:	
• SQL		• Organizational Skills	
• JavaScript		• Writing	
• Java		• Detail-Oriented	

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

 "I think it shows that while you don't need a lot of technical skill to do the job, however, you do need a lot of various general skills in the way you think, i.e. problem solving, troubleshooting, planning. Of course, there is a level of technical skill that you require in order to perform your job as expected by your employer, but the choice the employer makes on who he chooses to hire, I believe, is weighted more upon their general skills."

Name: Dane
Ideal Job: Senior Financial Adviser
This job in brief: Financial planners advise their clients on how to achieve their financial objectives.

Some financial planners provide comprehensive planning services without offering recommendations, while others offer both planning and transactional services.

Demand from Employers: Due to the Royal Commission into financial services and the recommendation to education requirements, a lot of advisers have, or will be leaving the industry. With an estimated 2.1 million people looking to get advice over the next year, the demand for advisers will significantly increase according to www.businessinsider.com.au

What are the job titles for your group's ideal jobs? How does each of these rank in terms of demand from employers?
"From the data below, I can see that our team's ideal jobs rank high according to the Burning Glass data. I can see that Software Engineers are in high demand, however, they will still need the backing from a team such as ours".

Jon	Software Engineer/ Solutions Architect	This job ranks 1st on Burning Glass
Dane	Senior Financial Planner	No related info as it's a different industry
Jaime	Systems Administrator	This job ranks 8th on Burning Glass
Damian	IT Consultant	No related info as it's not included in Burning Glass but the closest job this would be is Systems
Rav	Network Engineer	This job Ranks 9th on Burning Glass
Aaron	Software Engineer - Data Security Specialist.	This job Ranks 11th on Burning Glass

How do the IT-Specific skills in your required skill set rank in terms of demand from employers?
"There was no available data on the Burning glass for the IT-specific skills required for Financial Planning"

How do the general skills in your required skill set rank in terms of demand from employers?
"The general skills rank highly on Burning Glass. It is my belief that most industries share common general skills that are essential for any professional. It's good to know that the skills I will develop are desired everywhere".

Senior Financial Adviser	No related info as it's a different industry	
Specific IT Skill Required: • Microsoft Office (Word, Excel, Powerpoint) • X-Plan • SalesForce • Outlook • Chantwest (Superannuation comparison tool) • Iress • Quoting applications (Individual to each provider)	General Skills Required: • Communication skills • Listening • Problem Solving • Organizational • Analytical skills • Persuasion • Negotiation • Research	• Excellent written and verbal skills • Interpersonal skills • Relationship building • Customer service • Strong mathematical skills • Time management • Planning
5 ranked skills: • Communication:　First • Problem Solving:　Second • Organizational:　Third • Writing:　Fourth • Team Work:　Fifth	3 General Skills not in my list: • Creativity • Articulate • Multi-Tasking	

Having looked at the Burning Glass data, has your opinion of your ideal job changed? Why or why not?
"Yes, it actually showed me that there are lot more general skills applicable to my chosen ideal job. This is great as it demonstrates that I will learn valuable skills that are transferrable if I ever wish to change professions."

Name: Aaron
Ideal Job: Software Engineer - Data Security Specialist.

What are the job titles for your group's ideal jobs? How does each of these rank in terms of demand from employers?
According to the data provided by Burning Glass, my ideal job ranks as the 11th most popular job title in the IT industry. The Burning Glass data also shows this occupation is the top occupation. The IT specific skills required for my job include applied cryptography, distributed system security, strong programming experience including C++, Go, Java and OOP concepts. The general skills required for this role include teamwork, communication, creativity, and attention to detail.

Jon	Software Engineer/ Solutions Architect	This job ranks 1st on Burning Glass
Dane	Senior Financial Planner	No related info as it's a different industry
Jaime	Systems Administrator	This job ranks 8th on Burning Glass
Damian	IT Consultant	No related info as it's not included in Burning Glass but the closest job this would be is Systems
Rav	Network Engineer	This job Ranks 9th on Burning Glass
Aaron	Software Engineer - Data Security Specialist.	This job Ranks 11th on Burning Glass

How do the IT-Specific skills in your required skill set rank in terms of demand from employers?
According to the Burning Glass data, my IT specific skills required for my ideal job rank moderately in terms of the demand from employers. Out of the skills required of me, Java ranks the highest, coming in third on the Burning Glass data set. Software engineering and systems engineering rank lower in the data set. Of the general skills required for my ideal job, communication skills rank the highest, coming in at first place on the list. Teamwork and collaboration come in at fifth on the list, followed by detail orientated at eighth place and finally creativity in 9th place in the rankings.

How do the general skills in your required skill set rank in terms of demand from employers?
The three highest ranked IT-specific skills which are not in my required skill set are SQL, Microsoft Windows, and project management. The three highest ranked general skills which are not in my required skill set are problem-solving, writing and troubleshooting.

Software Engineer	This job Ranks 11th on Burning Glass
Specific IT Skill Required: • C++ — 28th • Java — 3rd • OOP concepts • cryptography • distributed system security	General Skill Required: • Communication Skills - 1st • Creativity - 9th • Teamwork/Collaboration - 5th • Attention to detail - 18th
3 highest ranked IT-specific skills: • SQL • Microsoft Windows • Project management	3 highest ranked general skills: • Problem • Writing • Trouble Shooting

Having looked at the Burning Glass data, has your opinion of your ideal job changed? Why or why not?
Having looked at the Burning Glass data, my opinion of my ideal job has not changed. However, I have learned that a number of the IT-specific skills I will require for my job are not highly ranked in terms of demand from employers. The other realization I have made is that skills and expertise in Apple products, software, and operating systems will be somewhat niche when comparing the skills required and desired by the wider IT industry. The Burning Glass data highlights the demand for knowledge of Microsoft Windows, Microsoft C# and other systems such as LINUX.

Name: Damian
Ideal Job: Network Engineer – Data Centre:

Data centre engineers are the backbone of data centres with the progression of cloud services such as Google, Microsoft, Amazon all progressing with their services to help clients and their businesses data centre engineers are from what I can see are in high demand.

What are the job titles for your group's ideal jobs? How does each of these rank in terms of demand from employers?
"We have different job titles we would like to one day fulfil but if we were to hypothetically start our own company together our jobs would all interact with each other."

Jon	Software Engineer/ Solutions Architect	This job ranks 1st on Burning Glass
Dane	Senior Financial Planner	No related info as it's a different industry
Jaime	Systems Administrator	This job ranks 8th on Burning Glass
Damian	IT Consultant	No related info as it's not included in Burning Glass but the closest job this would be is Systems
Rav	Network Engineer	This job Ranks 9th on Burning Glass
Aaron	Software Engineer - Data Security Specialist.	This job Ranks 11th on Burning Glass

How do the IT-Specific skills in your required skill set rank in terms of demand from employers?
"With the way the IT industry is changing and evolving the skills are still ranked highly and are in high demand from employers such as Google Microsoft Amazon and other data and cloud service providers."

How do the general skills in your required skill set rank in terms of demand from employers?
"The skills are in high demand from employers and these are just the basics for what would be required for Google and Microsoft and they would have their own specific skills that they would have created."

Network Engineer – Data Centre:	No related info as it's not included in Burning Glass but the closest job this would be is Systems
The main responsibilities of an engineer are: • Design and implement networks and infrastructure. • Monitor networks and infrastructure and do maintenance when required. • Analyze network traffic and report what is in demand. • Monitor for security risks and breaches.	**Skills and Certifications:** • Cisco Certified Network Professional (CCNP) • Cisco Certified Network Associate (CCNA) • Data center infrastructure management and experience. • Cisco Unified computing system capabilities. • Experience with load balancing and unified systems. • Network engineering experience
Salary: As a data centre network engineer your salary can range from $85,012 to $128,956 per year with the potential to earn more and have the flexibility of other job opportunities. The source I used for this information is here: https://www.fieldengineer.com/skills/datacenter-network-engineer.	

Having looked at the Burning Glass data, has your opinion of your ideal job changed? Why or why not?
"It hasn't changed at all, in fact, it has me more excited and wanting to learn more and enhance my skills and knowledge to be successful as a data center engineer, I am looking forward to advancing my knowledge and also dealing with all kinds of problems and working out solutions for my potential employers."

Name: Jaime
Ideal Job: Technical Support

I find this information in https://www.careersfoundation.com.au/technical support, and it's part of the IT Manager or Systems Administrator. Technicians use their knowledge of software and IT to solve users' problems, this is recorded or future use.
Degree: TAFE:
- Certificate in Information Technology
- Undergraduate:
- Bachelor of Information Technology
- Bachelor of Computer Science

Skills: Problem-solving, technical knowledge, troubleshooting, communication
Salary: 45k - 95k

Ideal Job: Systems Administrator
Examples of Systems Administrator responsibilities: Manage system infrastructure including, databases, testing computer equipment, firewalls, malware, and other software and hardware. Provide technical support for both hardware and software issues that may arise. Monitor the system daily and respond quickly to any security breaches or usability concerns. Backup systems and verify that backups have been completed. Regularly upgrade systems as needed. Assist in integrating new applications and technologies into the current system. Examples of Systems Administrator skills. Associate degree or higher in related field. 2+ years of experience as a system administrator. Ability to respond to help desk requests after hours. Expert knowledge of system security concerns and vulnerabilities. In-depth knowledge and experience with VMware.

What are the job titles for your group's ideal jobs? How does each of these rank in terms of demand from employers?
"According to Burning Glass Data, my ideal job is in job ranking 8, that makes me understand that it is within the 10 places, which companies need to hire IT with skill."

Jon	Software Engineer/ Solutions Architect	This job ranks 1st on Burning Glass
Dane	Senior Financial Planner	No related info as it's a different industry
Jaime	Systems Administrator	This job ranks 8th on Burning Glass
Damian	IT Consultant	No related info as it's not included in Burning Glass but the closest job this would be is Systems
Rav	Network Engineer	This job Ranks 9th on Burning Glass
Aaron	Software Engineer - Data Security Specialist.	This job Ranks 11th on Burning Glass

How do the IT-Specific skills in your required skill set rank in terms of demand from employers?
"According to Burning Glass my ideal job, my skills should be like in IT support, that leads to the management of user accounts, data backups and user support, I can say that I manage almost all those elements, but I must complement for example on topics like big data, cloud computer and servers."

How do the general skills in your required skill set rank in terms of demand from employers?
"The general skills required by this job, according to the burning glass data, are deal with users, teamwork/Collaboration, IT Troubleshooting, Planning, Creativity, Analytical Skills."

Having looked at the Burning Glass data, has your opinion of your ideal job changed? Why or why not?
"My idea of the ideal job, was completely different, to do the research is more focused on technical support, but despite that does not change my opinion, this gives me a motivation to improve my IT Skill."

- I.T. Professional –

Case Report by:

Jon:
Software Solution Architect

Rav:
Network Engineering, PHP Developer, UX Designer

Dane:
Software Engineering

Damian:
Life as an IT Professional

Aaron:
Cyber Security Analyst

Jaime: Added Comments on
Solution Architect Case Report
Network Engineer Case Report
UX Designer Case Report

" SOFTWARE / SOLUTION ARCHITECT "

Reported by: Jon

What kind of work is done by the Solution Architect?

Article Comments:
REF Article [https://www.reddit.com/r/aws/comments/44rt9p/solution_architects_what_is_a_day_in_the_life_like/]

According to reddit.com forum that "Not all solutions architects do architect work." Architects tend to be more involved with the overall design of the project, and not so much with the simpler implementation tasks, which is more for engineers. In day to day of a (SA)Architect may fall on reviewing existing environments, planning new ones, traveling abroad, building huge infrastructure for massive companies, doing migrations, writing scripts, scripting infrastructure, taking exams, studying, all sorts. Some (SA)Architect may require travel. (SA)Architect might be exposed working on troposphere CloudFormation environments, scripting code deploy and Jenkins integrations, writing python scripts using BOTO to create new VPCs and link with VPNs dynamically, building RPMs, chef cookbooks for application deployment, you name it.

REF Article [https://www.quora.com/What-are-the-day-to-day-activities-of-a-software-architect]

According to quora.com forum, Most Solution Architect (SA) will be involved in management discussions whenever new project proposal or requirements come to the team or company. He is responsible for giving inputs on time is taken for project completion, risks, complexities, resources required, manpower required, etc. His inputs are most valuable to management to take the decisions for any projects. Management will try to leverage his knowledge to take important project decisions.

My Comments:

    "In my observation Solution Architect and Engineer are totally in a different area, however, they are always related to each other. You can either do the same position but always different ways and just related. In my investigation Solution Architect can attain training in AWS Amazon Web Services and have certification. The most business using this cloud computing platform to utilize for their growing business to manage their interaction with their clients producing analysis and report as AI application minimizing paper works and workload for producing reports to all department of the business. This is not requirements for Solution Architect rather a helping hand to do the role with high-quality performance especially if you are working along with the business have data server structure in AWS. I notice that the Solution Architect always-on design, planning, and management. Solution Architect brainstorming knowledge throughout the team. Even Solution Architect is not on hands-on duties but should always have wide knowledge in various different methods which really helps the team produce high quality and productive product. "
    - Jon Ara

    "As Software Engineer is responsible for analyzing, designing and creating the different programs, based on knowledge in multiple areas, and types of programming languages ??that should be used to achieve the requested project."
    - Jaime

What kinds of people does the Solution Architect interact with?

Article Comments:
REF Article [https://www.reddit.com/r/aws/comments/44rt9p/solution_architects_what_is_a_day_in_the_life_like/]

According to reddit.com forum, Most Solution Architect (SA) "focus on a specific set of products and therefore don't have specific customers, but most have dedicated customers". The list of duties for a customer depends on that customer's current level of AWS adoption. In the beginning, it involves a LOT of intro talks with lots of teams.

REF Article [https://www.quora.com/What-are-the-day-to-day-activities-of-a-software-architect]

According to quora.com forum, Solution Architect (SA)keeping knowledge sharing with team members and newcomers. Helping team during project deliveries and follow up with other teams for whatever required to deliver the project on time.

My Comments:
   "I notice that Solution Architect does not have much hands-on interaction with costumer rather just have a role of making sure that the team produces what is requires and making the product in the highest level of quality for their costumer. In my investigation, most of the time the Interviewer or Business consultant are the one engaging on the process getting information from the client to pass onto the team and then Solution Architect will make a plan how to built the product item per item involving Software Engineer in the process. Solution Architect is more involved with the team enhancement, follow-ups, and progress of the project meaning the Solution Architect are always interacting with the people who have the same field desire of Information Technology."
   -    Jon Ara

   "Software or solution architect must deal with different types of people, corporations, organizations etc. since it will have to demonstrate knowledge in different branches, to achieve the proposed objectives."
   -    Jaime

Are they also other IT professionals? Clients? Investors? The general public?

Article Comments:
REF Article [https://www.reddit.com/r/aws/comments/44rt9p/solution_architects_what_is_a_day_in_the_life_like/]

According to reddit.com forum, Most Solution Architect require source knowledge or pre-sales work meaning outsourcing the other methods outside the company's capabilities. Solution Architect often interacts with mixed teams, so you learn how to quickly answer high-level questions on a variety of topics. Later on, as the customer takes their first steps, it may involve POCs, whiteboard sessions, and collaboration with an implementation team (either internal or external to the customer). The career outlook for Solution Architect is fantastic and lots of opportunities internally and externally. Sourcing from LinkedIn interest, even without actively promoting some of the massive worldwide companies that Solution Architect worked with.

REF Article [https://www.quora.com/What-are-the-day-to-day-activities-of-a-software-architect]

According to quora.com forum, A Solution Architect does sync up calls with onshore teams for anything (project related, issues follow up, customer related issues, knowledge transfer, future projects discussions and follow up project road maps, etc).

My Comments:

"I notice that Solution Architect can be a client because most of Solution Architect have may build lots of portfolios specializing in a particular area in the IT industry. Other Solution Architect may engage to other Solution Architect to get their project done, meaning they can also be in the general public as an observer."

- Jon Ara

Where does the Solution Architect spend most of their time?

Article Comments:

REF Article [https://www.reddit.com/r/aws/comments/44rt9p/solution_architects_what_is_a_day_in_the_life_like/]

According to reddit.com forum, Most Solution Architect is generally on the sales side of the house. They know a ton about AWS and different use cases and best practices but they don't normally get into the thick of the project. They spend a lot of time designing the best case and trying to crystal ball what it will cost.

My Comments:

"In my observation Solution Architect most involved in planning case to case bases and making the team achieving the target goal and not as hands-on duties like the Software Engineer rather an organizer or planner which have wide knowledge in a different type of methods and platforms that includes knowledge to all new development available in the market. In my investigation Solution Architect always outsourcing new ideas from different types of IT department to create a new product that will help to provide the requirements on the project."

- Jon Ara

"In analysing the client's ideas and ordering them to create the code."

- Jaime

What aspect of their position is most challenging?

Article Comments:

REF Article [https://www.reddit.com/r/aws/comments/44rt9p/solution_architects_what_is_a_day_in_the_life_like/]
According to reddit.com forum, It's easy to let yourself get out of shape, and it's your responsibility to come up with little projects to get hands-on practice with a new service or feature (and you really do need to do this - without getting hands-on it's WAY too common to think that something can be easily done when in fact it's difficult or impossible, or just simply not the right way to do it). Technically that's part of your job, but of course, just keeping all the various balls in the air and context switching between customers takes up the whole day if you let it, so time management skills are critical.

My Comments:

"In my observation Solution Architect have limited area in developing his skills for hands-on building the product but what makes him to be a good Solution Architect should then know all available methods or platform in building their product, so meaning still have to take knowledge intake and be updated as much as possible be skilled like the Software Engineers who actually involved in creating the product. In my investigation, the Solution Architect can also be a Software Engineer as they are closely working to each other. It is up to the person how to enhance their skills in the technical aspect of Information Technology skills."

- Jon Ara

" NETWORK ENGINEER "

Reported by: Rav
REF Article [https://www.pcage.edu/2017/10/08/a-day-in-the-life-of-a-network-engineer/]

What kind of work is done by the Network Engineer?

"This IT professional is a network engineer. His main role in the company is to design, implement and maintain the computer networks within a company. As opposed to network administrators that handle more day to day support of the network, a network engineer focuses on high-level design and planning. By selecting the correct technologies and making sure they are implemented correctly, network engineers ensure a high performing network for all its users."
-   Rav

"It is responsible for the communication networks to work in a company or organization. And will be in charge of data infrastructure."
-   Jaime

What kinds of people does the IT professional interact with? Are they other IT professionals? Clients? Investors? The general public?
"Network engineers, according to the article, would speak with department heads or certain members of staff to accommodate any of their networking requirements. In the instance of the article, it is training on how to do a particular task on a network. They also delegate tasks to people in your team, i.e. network technicians. Again, in this case, a part of the training was delegated towards a network technician. They would also be involved in meetings with department heads and colleagues on maintaining and implement new products/services into their network."
-   Rav

"Normally deal with non-technical people, who assumed that any problem in the computer is due to a network failure, also must maintain a communication with service providers."
-   Jaime

Where do the IT professionals spend most of their time?
"Depending on where they work, it can range from within an office or within a server farm. Either way, they would generally be sitting down at a desk for most of their day. If there is some kind of malfunction with the server, you might have to visit the physical server itself to make sure it gets fixed. Depending on where you work it might be some distance away, especially if your company employs off-site data centers. "
-   Rav

"In keeping the equipment optimized and functional for the demands of the company or organization."
-   Jaime

What aspect of their position is the most challenging?
"I would say having to maintain such a large network would be the most challenging, as not only do you need to fix issues that arise occasionally during your work hours, but you might have to stay late to resolve more complicated issues."
-   Rav

"The challenge is to maintain stable channels of communication in the company or organization, and every day the systems are put to test, with data that no longer only contains text information, if not also must deal with audio, video, etc."
-   Jaime

" PHP Developer "

Reported by: Rav

REF Article [https://blog.growthfunders.com/a-day-in-the-life-dan-ord-senior-php-developer]

What kind of work is done by the PHP Developer?

"PHP Developers primarily work within the realms of web development in today's industry but they are also known to develop programs as well. One of the things that all PHP Developers have in common, as the name suggests, is that they utilize the dynamic scripting language PHP. Besides web development, PHP can be utilized for business applications as well. Their roles range from web site administration, software testing and user training. "

- Rav

What kinds of people does the IT professional interact with? Are they other IT professionals? Clients? Investors? The general public?

"In the article's case, the PHP developer is in a senior position and therefore overseers a great deal more than a normal PHP developer would. Dan Ord's role is to oversee all Linux-based projects that come into the company. This means that he would generally be speaking to upper management about how they want to implement the ideas that they would have. He also mentions he replies to support tickets, which means he would be fixing user specific to widely known issues reported by the users from within the company. "

- Rav

Where do the IT professionals spend most of their time?

"He would spend most of his time in front of a desk, answering support tickets or otherwise in meetings where he would be either planning on current and future tasks or showcasing the work he has already done to management and employees."

- Rav

What aspect of their position is the most challenging?

"The most challenging project he mentions is the current app he is working on which he has full control over. I tend to agree with him with regards to being in charge of large-scale projects that affect the company's performance as the direction it takes based on this outcome."

- Rav

" UX Designer "

Reported by: Rav

REF Article [https://www.youtube.com/watch?v=ORZlHuD22UQ]

What kind of work is done by the UX Designer?

"A UX Designer focuses on creating a smooth user experience of a product or service. In this case, the UX Designer is responsible for the UI (User Interface) and the UX of an app. He designs the look and feel of the app which then gets passed onto the developers to create into the mobile platform. He is responsible for creating a user environment that both caters to the need of the client, platform and good user experience principals."

- Rav

"UX Designer, is the person or group that is responsible for creating the appearances of the programs, and we can say that it is the connection between the system and the end user."

- Jaime

What kinds of people does the IT professional interact with? Are they other IT professionals? Clients? Investors? The general public?

"The designer would interact with the app developer team in sending them the necessary amount of detail for them to be able to create the app, a QA team to catch any missed details, colleagues to gain potential feedback on an aspect of the design he's created and finally with the client in order to gain feedback for the app he is making and implement any changes."

- Rav

"Interact with the client that asks for the program, the developer how create and the end user that the program or app will be occupied."

- Jaime

Where do the IT professionals spend most of their time?

"The designer would spend most of their time in front of a computer or in front of the client/colleagues for meetings about the work they are doing."

- Rav

I love it when a programmer spends time improving the UX of their system, and most of this time it for traying to make friendly the interface."

- Jaime

What aspect of their position is the most challenging?

"He mentions that the biggest challenge is that he "has to work with both the restraints of the product itself and the client's expectations. Juggling what the client wants and the user needs can be hard, but it's important to find the right balance".

- Rav

The UI designer must think as a user, make it friendly and connect the ideas of the develop to make it work as the client wants."

- Jaime

" Software Engineer "

Reported by: Dane

What kind of work is done by the Software Engineer?

REF Article [https://www.roberthalf.com.au/our-services/it-technology/software-engineer-jobs]

The following list of duties and responsibilities was taken from the website: https://www.roberthalf.com.au/our-services/it-technology/software-engineer-jobs

- Improving system quality by identifying issues and common patterns, and developing standard operating procedures
- Enhancing applications by identifying opportunities for improvement, making recommendations and designing and implementing systems
- Maintaining and improving existing codebases and peer review code changes
- Liaising with colleagues to implement technical designs
- Investigating and using new technologies where relevant
- Providing written knowledge transfer material

REF Article [https://www.fullstackacademy.com/blog/what-do-software-engineers-do]

"Software Engineers use their extensive knowledge of programming languages, engineering principles, and IT systems to produce software products that can be used for applications such as interactive games, web pages, robotics, network controls, mobile devices and basically anywhere you would find software. It is their job to liaise with businesses or people to discuss their needs, then provide a software solution to meet those needs. A Software Engineer needs to address the entire software development lifecycle - to analyze the needs, and then design, test and develop software in order to meet those needs."
- Dane

What kinds of people does the IT professional interact with? Are they other IT professionals? Clients? Investors? The general public?

"This can depend on the type of Software Engineer (SE) they are. Application SE's are more client facing, as it is their job to design and implement software for the client, or the client's customers to interact with. They will also interact with other IT professionals as well as Project Managers, Analysts, Marketing Staff, and Test Engineers to ensure the product is delivered as desired and on time."
- Dane

Where do the IT professionals spend most of their time?

REF Article [https://readwrite.com/2013/04/25/how-software-developers-really-spend-their-time/] Software Engineers spend their time as shown in the image below:

Where do the IT professionals spend most of their time?
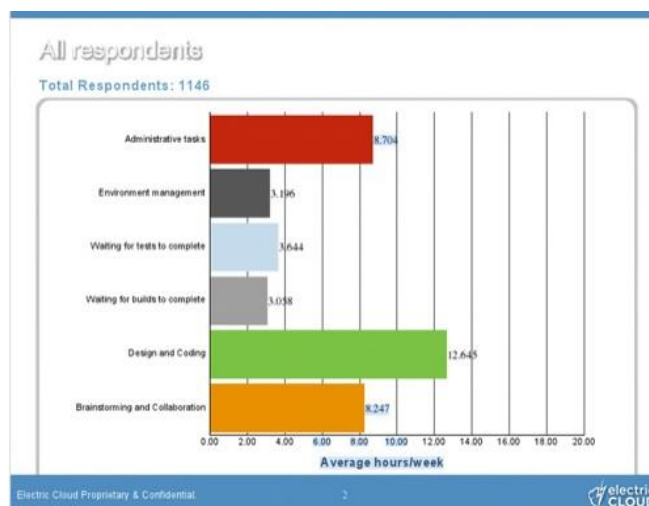
REF Article [https://halistechnology.com/2015/04/30/the-hardest-part-of-software-development/] On the website suggested perhaps the most challenging part being a Software Engineer is communication.

"They describe the challenges faced when people have different ideas, or that people may have a different understanding of what the actual requirements are."

- Dane

" Life as an IT Professional "

Reported by: Damian

What kind of work is done by the IT Professional?

"I watched some video's on YouTube searching for Life as an IT professional to be able to gain an insight into the day to day running in the industry, I will link the video's below."

- Damian

REF Video [https://www.youtube.com/watch?v=om8AygYdrto]

The first person talks about what he does on a day to day basis.

"Works with Microsoft products like windows, windows server, and runs a ticketing system for IT related problems. The tasks he does is checking tickets, going out in the field making user accounts and account management with access and active directory. Day to day life varies and no day is the same he summarizes that he is an IT services technician and pretty much does everything."

- Damian

What kinds of people does the IT professional interact with? Are they other IT professionals? Clients? Investors? The general public?

REF Video [https://www.youtube.com/watch?v=PCmkTcFYrX8]

The second person started his IT career in the navy and describes how even if you don't have a technological background you still need to learn how to use computers.

"He studied IT at university and it was more about a theory whereas being in the navy it was more hands on. He works in the customer service department where he helps customers troubleshoot their problems at home for an internet service provider. Helping people get back online and set up their own home networks and collates with various departments in the company to help customers with their problems. He communicates with customers and has to work out which department is needed to solve the issue as may need to send a field technician to customer's premises or if it's a network problem. His key skills would be Customer service, working in a team, Communication, Problem-solving, to help customers get back to using their service as quick as possible."

- Damian

Where do the IT professionals spend most of their time?

REF Video [https://www.youtube.com/watch?v=vt79JcPfZQA]

The third person I viewed is a software engineer who works for a company that is a home services supplier.

"Her work is more to being web development and explains that their backend systems are written in python and the front end or website is HTML java and CSS. The team she works in writes a lot of code and in a fast-paced environment where they push and implement it into their various systems then go back and kill all the bugs with their code. Her knowledge would be able to fluently write HTML java and CSS along with python and other various programming languages."

- Damian

"Cyber Security Analyst"

report by Aaron Bowden

What kind of work is done by a Cyber Security Analyst?

"My research has revealed that the profession of Cyber Security Analyst is becoming more and more popular as the world becomes more dependent on technology. It is apparent that there is currently a high demand for Cyber Security Analyst's and the Australian Government predicts the number of people working in this field will increase strongly to 41 000 by 2022 (The Australian Government, 2019). According to Rasmussen College, the kind of work typically performed by a Cyber Security Analyst's includes 'planning and carrying out security measures to protect computer networks and systems. This work also includes 'keeping tabs on threats and monitoring networks for any breaches in security' (Rasmussen. Edu 2019). To me, this means Cyber Security Analyst's must maintain subject matter expertise in areas such as cryptography, IT trends and security, understanding how to defend against cyber threats."
- Aaron

What kinds of people does a Cyber Security Analyst interact with?

"According to the Job Outlook website published by the Australian Government, Cyber Security Analyst's liaise with a variety of different people including security vendors, suppliers, and service providers (The Australian Government, 2019). This website also highlights that Cyber Security Analysts are 'required to provide troubleshooting advice and support to clients in diagnosing, resolving and repairing hardware and software malfunctions' (The Australian Government, 2019). To me, this means Cyber Security Analyst's would need to deal with both technical and non-technical stakeholders. It would be important for Cyber Security Analyst's to have excellent communication skills to be able to communicate using technical jargon with other IT professionals, whilst also being able to communicate threats and advice to clients who could include members or a business or members of the general public, depending on who the client is. "
- Aaron

Where does a Cyber Security Analyst spend most of their time?

"Deakin University published an interview with Colby, a Security Analyst at Deloitte, who stated that their average day in this profession involves internal and external testing. Colby states that their average day involves simulating a cyber-attack, writing an assessment and 'providing a report to the client which details the steps involved in exploiting each vulnerability discovered and recommendations to secure the affected system.' (Deakin University, 2019). To me, this means Cyber Security Analyst's would spend the majority of their time utilizing technical skills to simulate attacks and then utilizing general skills in report writing and communication to provide their findings to their clients."
- Aaron

What aspect of this position is most challenging?

"In the same interview published by Deakin University, Colby stated the challenge of this position is that 'security analysts must continually adapt to stay a step ahead of cyber criminals. This involves monitoring current trends in cybercrime, the latest methods and exploits used by attackers to infiltrate systems, and new developments in technology.' (Deakin University, 2019). To me, this means that Cyber Security Analyst's must continue to be subject matter experts. I would think it is likely they must continuously consume information and update and maintain their skills in order to perform their duties effectively. I imagine this would require a significant commitment to ongoing learning which would be very time consuming."
- Aaron

- I.T. Technology –

Case Report Topic:

Robotics
Cloud Computing and Services
Cyber Security
Autonomous Vehicles
Raspberry Pi

Robotics

What does it do?

From Wikipedia, the free encyclopedia

Robotics is an interdisciplinary branch of engineering and science that includes mechanical engineering, electronic engineering, information engineering, computer science, and others. Robotics deals with the design, construction, operation, and use of robots, as well as computer systems for their control, sensory feedback, and information processing.

What is the state of the art of this new technology?

REF Web Article

https://www.sciencedirect.com/science/article/pii/S1474667017637418

From the article of ScienceDirect, the origin and the history of robotics are introduced, and the present status of robot progress, its significance and a new role of the robot in human society are discussed. Nationwide research activities are reviewed and some of the research and development results are reported. The population of the robot is rapidly increasing in advanced countries and the social impact of the robot's diffusion must be carefully inspected. Finally, how to meet with a coming robot era from the standpoint of human society is considered.

REF Web Article

https://www.aivoke.com/news/state-of-the-art-robotics/

From aivoke.com, the current state of research seems to be only a few steps away from it if you have a closer look at state-of-the-art robotics. Many people connect the topic Artificial Intelligence mostly with robotics. This is very superficial because robotics is only one part of the big puzzle that is AI research. You could call it the "give AI a shell" part. Furthermore, some AI personalities take the view that embodiment is one fundamental factor for Artificial Intelligence. Independent from that view there is a lot of research and development concerning robotics.

What can be done now?

REF Web Article

https://www.bbvaopenmind.com/en/technology/robotics/seven-human-things-that-robots-can-already-do/

From bbvaopenmind.com, THINGS THAT ROBOTS CAN ALREADY DO.

My Investigation:

There are different types of robot doing different type of work mainly having human interaction but others work replacing human activity. There are Robot duties like sorting packages and deliver them in front of your door like Spot, its dog shape allows it to also go up and down stairs. Also, there is some robots that helps human on their house chores a robotic butler like Roomba, the 'intelligent' vacuum cleaner that detects, thanks to its sensors, the areas for cleaning. After that, robotic lawnmowers appeared, with daily schedules and programmable zones, then barbecue-grill cleaning robots, an invention designed for this typically American hobby. More devices have also emerged for cleaning tables and windows. Even some robots that works for health, education, and recreation. The article mentions about the Da Vinci a robotic system which became the arms and eyes of the real physician. It allowed him to perform complicated operations at a distance and to have specialized surgeons who were located thousands of kilometres from the hospital where the patient was. Other robots have

soft and caring character which helping people in needs like Robocoach, a full-sized robot with a big smiley face mainly use for elderly. However, for childcare facilities they uses Zenbo the storytelling robot, and for mini educational with kid interaction robot Kibo is keeping kids learning with fun. The most interesting and revolutionary robots are Auto Self Driving

<u>Cars</u> the vehicle that are able to make autonomous decisions after analysing millions of data collected with cameras and sensors.

What is likely to be able to do be done soon?

REF Web Article
https://www.theguardian.com/zurichfuturology/story/0,,1920335,00.html
"A mind and a hand where it's needed while you sit safely at home and run the show. It's a future goal"
-- Mark W. Tilden, robot physicist

My Comments:
There are more Robots that we are yet to see and yet are for replacing human activity to machine. This is not bad at all in terms if we say what it makes the better way. The future technology for Robots is intend to be involved with human interaction rather machine that works on its own just like a standalone machine that we see today.

REF Web Article
https://www.techrepublic.com/article/humanoid-robot-market-to-double-by-2023-industrial-robotics-to-hit-72b/
The article mentions that by 2023, we will see an increasing use of humanoid robots for education, as well as in the retail industry, to better personalize customer support. The medical and logistics sectors are also interested in integrating more artificial intelligence (AI) via robots, as do industries that run autonomous rescue operations, according to the report.
-- Alison DeNisco Rayome, Senior Editor for TechRepublic

My Comments:
Future machine will be like Robots that can identify its own character with the ability to build a character to produce fast and better outcome, a thinking machine uses Machine Learning as an Artificial Intelligent. We already have Humanoid version of robots that available in public, however, there are some more fascinating Robots that will be available soon to experience.

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?

REF Web Article
http://marshallbrain.com/robotic-nation.htm
"Once the humanoid robot became a commodity item, robots began to move in and replace humans in the workplace in a significant way."
-- Marshall Brain, writer

My Comments:
Robotics technology can have great impact to all of us specially to those people who works in the field involving technologies like; workers in manufacture facilities, airline services and many others. Robotics technology could potentially dominate hands on works more than human and eventually replacing humans in the workplace then robots will serve as more talented than humans.

In the article it mentions that "Robots in the workplace will be a very popular idea because they will eliminate labour costs. Pilots will be the first to go because pilots are incredibly expensive and their jobs are largely automated already." It seems really frightening that no more jobs left for humans in terms of the economy is falling down, but the article also mention that "Conventional wisdom says that the economy will respond to all of these unemployed workers by creating new jobs for them." This means that the technology will help the economy to stabilize itself but the article inclines to produce the idea

that the increasing of un-employed workers is because of this robotic technology. At glance we can see workers rate of employments are going down which what is happening today but not because of this technology as the matter of fact this technology that available to us benefited many by producing product more than enough that the normal person can able to produce in short period of time. We just not reducing the cost of the outcome products and remains with high price tags. So, this only means that today just big companies taking advantage of technology against human capacity. As for future analogy of this robotics technology we can see that we are actually buying our time to extend our life. If the Robot can produce product outcome without human sacrifice then it is a life saver. Money can become so powerful element to control human as today but, in the future, it will be just a paper as no value it may seems. Workers who works with Artificial Intelligence will be smarter than ever.

Robotics technology may change the future into a better place or make it worse. The article stated that "our society, as it is structured today, works like this -- you must either own a profitable business, or work for someone who owns a business, in order to "make a living." You have no choice. You must earn money in order to live your life. If you do not work and earn money, you are homeless. ", in this statement shows just how poor the employment structure that we have today. So, as to go for future progress to make our future a better place we must change this structure into smarter way against the statement of "You must earn money in order to live your life." Most business company now a day change this money thinking into workplace family attachment with loyalty balance mindset. Robots can be one of the way to get the changes we need. If the Robots can produce products with minimal cost then more is plenty than empty. Shortages will be unknown as everything can be provided and plenty of people will afford it.

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?

My Comments:
Robotics Technology can be viewed differently today as Humanoid or Machine. As of today, Machine is the most dominantly known to assist human in doing their task and for producing high quality product with consistency. Humanoid technology is yet to become common and be used in the workplace but we could see that it could be beneficial to human race if human interaction to the robots are minimal.

Robot should always be designed into a unified method and not just to be general use for everything. If ever the Robotics Technology reach the same level of iRobot that has Artificial Intelligence such Humanoid Robo become like a human then either there might be to concern or become a relief to us. However, a companion with a loving and caring Robot in your household is not a bad idea at all. When an elderly needs a personal assistance like nurse such a loving smart Robot can really be helpful in anyways, or a Robot teacher that will able to teach kids or even adults with precise knowledge is really beneficial for our advancement as for our advantage. Just to think of how much we spend in some unnecessary things and we do forget the most important things in life, and if then Robots can be able to do the unnecessary things for you, so as you can concentrate for the most important things in your life. Life balance will be then just as common to everyone, stress level is reduced as seems none at all. Life runs as it seems a flow of clouds instead a flow like a river.

The dream came into reality with work balance is undoubtedly. Robot is not just seemingly like a toy rather it is a companion that makes things better for you. Self-Driving cars is the example one among of the innovation of technology in the field of Robotics which when reached the full maturity of the technology it will really benefits human improving our transportation into secure and life saving device. Travelling can just become a door to enter into new room.

Cloud Computing and Services

What does it do?

Cloud computing has become a technological revolution although it has been debated when it really did start, some say it originally started in the 1960s but back then technology wasn't really a thing until now. Cloud computing really started taking off on August 9th, 2006 when the CEO of Google Eric Schmidt announced a new platform.
Since then other major companies such as Microsoft IBM Amazon etc have seen this as a great asset and have developed their own unique cloud computing services. It has shifted the way in which we use technology today services can be as little as just some data storage like google drive to a full package service to having an operating system and all apps a client needs to have for productivity for their business.

What is the likely impact?

A lot of companies are shifting towards cloud services and this is a way of cutting costs but still maximizing business productivity, which can be good and bad for business. The pro's for cloud services are you don't need multiple server racks and storage servers to be on site and having IT employees to manage and maintain servers for you. But the downside of having a cloud service is you rely heavily on the service provider to keep things running smoothly and for instance, the server you are using/renting has a problem and stops running you have to rely on the provider to get it back up and running quickly so you can continue with production.

How will this affect you?

The way I see cloud computing affecting me personally is I could be working for a company being their IT person making sure their servers are maintained and I am on site to swiftly solve any issues that arise, moving to cloud services could mean I lose my job or I am no longer needed.

There is another downside and something we all have to be conscious of is security being an onsite IT professional means any security risks to data breaches and the like can be rectified immediately whereas cloud services you have to rely on them to sort it out for you and say for instance you are renting from a provider based in the United States but you are in Australia means you have to wait for them.

Cyber Security

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?

On the website Techtarget.com, they define cybersecurity as "Cybersecurity is the protection of Internet-connected systems, including hardware, software, and data, from cyber attacks." To better understand exactly what cybersecurity can do, we must first understand the types of threats that cybersecurity will help to protect against.

Below is a brief list of the types of threats commonly seen in the cybersecurity world:

- Ransomware – As the name suggests, it's a file or programs the can restrict or disable a user's access to their computer. The attacker then demands a payment to give the user back their access.
- Malware – Any file or program that is intended to cause harm or damage to a computer's system or files. These include viruses, spyware, trojans, and worms.
- Social Engineering – This attack comes from users being made to feel like what they're seeing is real, then interacting with a file or program that can give the attackers sensitive information such as bank details, passwords and in some cases complete access to their computer's network.
- Phishing – Similar to above, the attack may come in the form of something like an email which encourages the user to provide sensitive information that otherwise wouldn't have been given.

Why is cybersecurity important?

With consideration to the above-mentioned threats, it becomes clear that people and business should employ technology that protects them from such attacks.

What can be done now?

On the website https://cybersafesolutions.com/services/, they offer a list of services that can be used to facilitate cybersecurity. Some of these services include:

- Managed Detection Response and Containment – Networks are constantly monitored to detect any abnormal activity. If a threat is detected, it can be contained and responded to in real time.
- Network Security Monitoring – Threats are identified, assets can be tracked and regularly scanned for any vulnerabilities. Behavioural analytics can be performed to further identify potential threats.
- Endpoint Security Monitoring – Endpoint intrusions (unauthorized access) can be instantly identified and isolated to prevent theft of data and sensitive information.
- Security Awareness Training & Simulated Phishing Tests - Staff and individuals can be trained to recognize potential threats and react accordingly.
- Penetration Testing – This is used to detect system vulnerabilities by performing simulated attacks on a network or system. Once the weak spots are identified, corrective measures can then be implemented.
- Threat Hunting – Compromise Assessment – A proactive approach is taken to seek out and destroy threats, or to ensure that endpoints or assets are ready for the attacks when they occur.
- Security Policy Development – Organisation can undertake the development of a cybersecurity policy that can include regular testing, upgrades, and evaluation of the protection system.

Individuals and organizations have a vast array of cybersecurity products to choose from that vary in application and cost. When implemented, these products provide protection against the types of threats mentioned previously. Technological developments from the makers of the products mentioned below make advanced protection possible.

Some of these products include:

- Checkpoint CloudGaurd – Protects against cyber attacks on cloud infrastructure workloads.
- CrowdStrike Falcon X – This automates threat analysis, and can provide intelligence and automation to organizations data security centres. It immediately shares threat data to other tools like firewalls and gateways.
- Force point Dynamic Data Protection – This product continually uses behavioral analytics to determine any out of the ordinary use of assets or data and then automatically provided appropriate security countermeasures.
- Okta ThreatInight – This product learns user's behavior over time and can allow users to log in password free in a "normal" setting. If the same user attempts to log in from an "unusual" setting, the product will ask a security question and a second factor before granting access.

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?

The development of advanced cybersecurity will certainly impact how people interact with technology. People are becoming increasingly aware of the consequence of cyberattacks, and a result more people are looking to the market to but cybersecurity products.

On the website https://www.csoonline.com/article/2946017/worldwide-cybersecurity-market-sizing-and-projections.html, they predict that the market will continue to grow to a potential 170bn sizing due to the increased interest and demand. What does this mean? It means cybersecurity businesses will continue to advance research in the industry and provide consistent solutions to the ever-growing threat of cybercrime.

What is likely to change?

As cybersecurity technology develops and progresses, particularly in the AI and automation areas, humans are likely to become increasingly redundant. IT professionals who specialize in the monitoring of network and system security may eventually be replaced by AI. Businesses will move towards an AI system that can learn human behavior, work non stop, analyze high volumes of data and provide instant security solutions that humans simply can't compete with.

The positive of that is that the demand for creators of this technology will increase and the level of AI will advance not only cybersecurity but all technologies where machine learning exists.

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?

Human interaction with technology increases exponentially every year. We only have to look around as we walk down a city street to see a plethora of people with their heads buried in their phones. We see interaction with automated banking systems, shopping systems, transport systems, and information systems. On the website https://zephoria.com/top-15-valuable-facebook-statistics/ they report that there are currently 2.32 billion Facebook users. 2.32 billion……. That's 2.32 billion people using some sort of device to access information in a cyber setting. That means there are 2.32 billion opportunities for people to attack someone's information.

The advancement in cybersecurity will allow for the peace of mind to use these technologies without the fear of being susceptible to an attack. With the increase in market size, it follows that cost should fall as businesses have to compete with the flooded market competition.

I don't believe anything will actually be that different in my daily life. Not yet anyway. It's possible and likely that identification protocols such as retina and facial recognition will become the norm for everyday use of technology.

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 for it to be able to do soon (say in the next 3 years)? What technological or other developments make this possible?

Autonomous Vehicles have in recent years been at the forefront of the car industry often associated to be the future of cars. With computers becoming more and more reliable, the next progressive step in the car industry seems to be going electric/hybrid technology and to have vehicles with autonomous functionality.

Autonomous vehicles are cars that are able to navigate their terrain with minimal or no input from the driver. This means that the vehicles are able to navigate differing traffic conditions, weather conditions as well as navigating all roads while keeping other motorists and from harm. Autonomous vehicles have 5 levels, starting at level 0 which is no automation whatsoever, to Level 5 which is a fully autonomous vehicle able to navigate all road conditions with no input from the driver (except of course the destination).

Autonomy is achieved by having several different technologies working together to create a working recognizable image of the world to which the computer can use to navigate the vehicle accordingly. Different companies employ various environment detection technology like radar, lidar, sonar, GPS, inertial measurement units, ultrasonic sensors as well as a network of cameras surround the vehicle to create a highly accurate map of the world around the vehicle. The computer then interprets the visual data to detect various road conditions like road lines, signage, other motorists, traffic lights and vehicle speed to steer, accelerate and decelerate according to what it sees. The algorithms it follows allow it to predict circumstances before they happen and also to react faster than any human could in a potentially hazardous situation.
Many of the large motoring companies have taken the leap now including BMW, Mercedes, Nissan, Ford, and even tech companies are getting on board as well like Google and more recently Apple. There are even companies that have been created solely to produce autonomous driving vehicles like Waymo and Yandex. Perhaps at the forefront of prevalently available technology is Tesla, as they have had a lot of success with their electric cars, offering a level of autonomous driving across all their models.

If we take Tesla as an example for what is currently possible, the car itself has the hardware capability to drive at the highest autonomous level (SAE Level 5) with eight cameras around the vehicle and twelve ultrasonic sensors, in addition to forward facing radars and enhanced processing capabilities. This hardware is not activated as yet since Tesla wants to make sure that they have as much real-world data first before sending the over-the-air update to provide the autonomous functionality. Currently, using the existing hardware from vehicles on the road, they are collecting the necessary data to make the correct improvements to release the update to the public in the near future. Other car manufacturers are also developing similar technologies to implement into their cars but Tesla's vehicles are miles ahead because of the data they've collected from real-world experience. Waymo, Yandex and Renault are companies that have also achieved Level 5 autonomy but they don't have any production vehicles available currently, only test vehicles.

In the next 3 years, we should be able to see fully autonomous vehicles being released by every large and small car manufacturer in the world. We are already at the cusp of the motor industry changing and slowly we will see more and more automated vehicles on the road without drivers. The one thing that would be impeding its progress is the government's legislation and policies that govern autonomous vehicles which, to some extent, be adopted globally. Until that time, we are going to see vehicles, like Tesla's vehicles, that have the capability to be fully autonomous but not utilized as yet or perhaps cars that have Level 1 to 3 autonomy on the roads that drivers can take advantage of as soon as it's available.

Technological improvements that would aid in the improvement of processing visual data would be A.I. If an efficient model can be created that allowed perfect dependability for interpreting visual data, it would greatly increase the policy adoptive rate of global governments. As is the case, the more data the A.I has sorted through the more efficient it will be. Therefore, sufficient amounts of data should be processed before implementing them into a car's computer for maximum success.

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 current jobs to technologies?

Autonomous vehicles will have a huge impact on everyone's life as it's used by everyone to some capacity. Parents use their cars to get to work and drop their children at school, taxi services take people from one point to another and buses and trains transport large groups of people to designated locations. If we assume that in the next few years, we do attain true autonomy in vehicles it will mean a variety of changes for people's lifestyles, depending on how the use of autonomous vehicles are implemented into society.

For instance, if a family were to own an autonomous vehicle their morning and evening commute could be entirely different. In the morning, of course, everyone would travel together to their destinations but since no one would be driving, they could catch up on work or talk to each other instead. After driving to each destination, the car can then be tasked to do something else. This could be anywhere from asking the car to pick up packages or groceries from the store or perhaps picking up some ride fares while everyone is working. The car could even be asked to pick up and drop off the children at home when it's time for them to go back home and then go to pick up the parents from work at the appropriate time.

When speaking about benefits, the one that is talked about the most is safety and traffic improvements. Safety in the form of reduced human-error related accidents and aggressive driving, when autonomous vehicles are fully capable will mean that we might see a handful or no death tolls at all. Since there is no human error, the vehicles will be able to move at higher speeds and in close proximity to each other, therefore affecting our travel time and experience. There are various other benefits like lower premiums for insurance and lower impact on the environment like many prevailing technologies there are also disadvantages. The most immediate threat it causes is to the taxi services, namely local taxi companies, Uber and Lyft. A lot of immigrants rely on this as income when they first enter the country, taking their jobs away will mean they have to look for employment elsewhere, adding extra pressure to their lives. Ethics also comes into play as well. A case could be made that while humans are slower at reacting to road situations, they might be able to make better ethical decisions based on the circumstances of the situation i.e in a collision involving a baby and an elderly person and one had to be sacrificed who would be saved?

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?

As a consumer of a product, I think it would greatly benefit my day to day life. From going to work I would be able to relax and enjoy my commute, maybe even get started on my day by replying to some emails without having to worry about traffic.

This would leave me refreshed and ready to start the day. I could use it on a ride fare service to make me some extra money or perhaps pick up something or someone for me while I am at work. Furthermore, when going on long trips with friends, I would be better able to enjoy their company while getting to my destination. I think that my family would also feel the similar benefits to myself, as well as a calmer sense of mind knowing that their child is safe traveling on the road. In addition, we might share one vehicle with the three of us, rather than paying for and owning a vehicle each.

The one thing that I might miss is being in control of a vehicle. I think as a choice; the autonomous car should accommodate a steering wheel for recreational use and as a failsafe. Although going on long journeys might be a chore, to some extent there is a sense of enjoyment that comes from accelerating and turning the vehicle. I think that many people who enjoy driving would feel the same way, as driving is more than something they have to do, it's more a hobby to them.

Raspberry Pi

The Raspberry Pi is a small sized computer that can be connected to the different type of outputs, and use a standard type of inputs to communicate. Was launched to the market to make it accessible and inexpensive, to help teach it in the classroom, the project was developed by the University of Cambridge.

What does it do?
The Raspberry Pi is the board of a simple computer, CPU, RAM, audio and video input and output ports, network connectivity, SD slot for storage, clock, a socket for power.

What can we do with Raspberry PI technology?

The Raspberry Pi can be used for different functions from a mini computer that allows us to language; to more complex tasks such as creating projects that adopt such as videogame consoles, meteorological stations or even music machines.

What is likely to be able to do be done soon?
With the advances of microprocessors, the processing capacity will grow, making it a world leader in low-cost PC. As hardware performance increases, the capacity of tasks that can be performed will increase, for the moment it is limited to Linux distributions catalogued as light.

What is the likely impact?

Raspberry Pi, will continue to grow worldwide, reaching many more disposable, and different manufacturers are copying the models either to improve it or adapt to different markets. The technology of the Raspberry Pi, will gain ground over time as many manufacturers of technological devices have begun to take open code to create their own projects, and with a community that grows every day, we will find a Raspberry Pi in video surveillance systems, monitoring stations, autonomous cars, medical equipment, etc.

As a lover of technology, I already had the opportunity to own a Raspberry Pi and managed to create a console that emulated video games, I love it personally and I managed to recreate my memories of when I was little, I do not know what can be done in the future I think create a different project. when the capacity increases, they will end up supporting operating systems different from those based on Linux, we can say that they will reach Microsoft's OS, which will allow them to reach many homes and regions where even PC technology is limited.

Group Project Idea:

PROJECT RUFUS

For our group work project, we have voted to pursue Project RUFUS. This project was originally conceived during Aaron Bowden current role at Apple in the Technical Support space but has evolved to become a group work project. The idea behind the project is to assist people who are unsure if they have been the target of social engineering and scams.

Unfortunately, in many instances, by the time a vulnerable technology user realizes they may have been the target of an online attack, they have already provided sensitive information or financial details to scammers. Our group are setting out to create a community-based online notification and rating system that will provide advice to users on whether an email is fake or legitimate. Project RUFUS will be delivered as a software application, designed as a plug in to run alongside users existing email systems.

The motivation behind the project is to help others with technology and protecting their online security and personal data. Unfortunately, many vulnerable technology users have fallen victim to phishing scams, resulting in their sensitive information being abused. For example, financial information being used for financial gain or personal information being misappropriated by cyber criminals for nefarious purposes.

Further, a recent study conducted by the cyber security firm Proofpoint highlighted that 83% of respondents in a recent security survey indicated they had experienced a phishing attack in 2018. Of note, this was up 76% from the previous year. Also, interesting to note was that the study stated security awareness training had a significant impact on preventing these kinds of attacks (Spadafora, 2018). By developing Project RUFUS, our group hope to spread awareness of phishing attacks and educate vulnerable online users, such as the elderly, parents, middle aged adults, and people with busy lifestyles who may not be aware of current scams or attacks.

The key features of Project RUFUS are as follows:

Real-time awareness: Project RUFUS will be a real-time awareness tool that will work to benefit the community. This is not a tool to replace junk mail filters, rather a tool that should be viewed as an enhancement to existing systems.

Education tool: Our aim with this project is to have an education tool to help spread awareness of phishing attacks and other online scams.

Community based: The project will rely on active participation from the community. The service will be based on members of the community reporting information to the project that will inform the advice and rating system delivered through the software.

User-friendly: Project RUFUS will aim to be a user-friendly experience. The target audience of this project are those less likely to be confident with technology, such as the elderly. Therefore, it is crucial information is delivered in an easy to understand format.

Colour coded risk advice: The project will use a basic traffic light colour coding system to advise of risk. Green = safe, the email is safe to open. Yellow = caution, the email is deemed suspicious, exercise caution. Red = stop, the email is known as malicious, delete and do not action.

Accessibility: The project aims to be accessible to multiple users. There will be accessibility options built into this project, such as a voice over option for the visual impaired. The simple colour coding system also aims to overcome language barriers by applying a universal, easy to understand rating system for advice.

The project aims to be accessible to multiple users. There will be accessibility options built into this project, such as a voice over option for the visual impaired. The simple colour coding system also aims to overcome language barriers by applying a universal, easy to understand rating system for advice. <my addition>The colour coding system can also be calibrated for the different varieties of colour blindness, allowing users to adjust the levels of severity with a colour that is easily identifiable for them.

Encryption: Any data we do collected will be anonymous and only to improve our algorithm in detecting dangerous emails. All information that is sent to our servers through our email plugin will be 256-bit end-to-end encrypted. This means that no one but the computers see's the data coming through to it.

Not-for-profit service: There will be no cost to install or use RUFUS. The goal of this project is to help people, not to profit from their vulnerability. The project will seek support from tech companies to supply assistance in the form of volunteering people and knowledge to actualize the project. The project will also approach financial institutions (banks etc) for sponsorship of the project. It is likely sponsorship could be gained from financial institutions as the reduction in phishing attacks could see a reduction in financial claims or losses for their clients.

The tools and technologies that our group will require to develop Project RUFUS are:

- Internet access will be required to research and develop the software application, as well as to keep the application running with the most up-to-date information.
- A server will be needed to store the data required for the plug in to function.
- The software will need to be compatible with all major email servers and protocols in order to reach the most amount of people.
- There will be a need to experiment with different portable and desktop devices to ensure the software is functioning properly.
- Voice over technology will be required for the accessibility options envisaged for the project.

Skills required: Hardware: Our group will need to learn how to build a cloud-based server that can synchronise with the app/plugin over different platforms. Our group will need to learn how to collate emails the plug in sends to the server with the different rankings for each user. It will also need to be able to send "live" updates to the plug in as well.

Software: An in-mail app plug in would be the best way for my project to reach the intended audience. It needs to be written so it can plug in and work within the inbox and be easy to see, read and understand. It would need to suitable for all apps and email accounts if possible.

As our group are all relatively new to the world of programming, we are yet to learn the skills required to realise our vision in creating Project RUFUS. As we continue our tertiary education, we expect to gain a better understanding of the tools that will be available to us to be able to create this project. We will also gain a better understanding of the resources and costs that will be involved to develop this project. We anticipate there will be many unforeseen obstacles throughout this project, however, we will require the skills to be highly adaptable in order to modify elements of our project and ensure its success.

Our desired time-frame for the implementation of Project RUFUS would be 12 months. However, as we are only just embarking on our university studies, we think a more reasonable time frame will be 2-3 years. This will allow us to continue to develop the skills and knowledge needed, through university study, to be able to actualise this project. We hope the outcome of this project will be a dramatic reduction in the amount of people impacted by phishing attacks and scams. While we are realistic that we will not be able to stop the cause of the problem, we are confident that we can initiate massive harm reduction by influencing the targets of these attacks. Through timely education and advice, we aim to significantly minimise the risk to vulnerable internet users.

Group Reflection

What went well?

Group Summary: Everyone thought that the group's willingness to complete the assignment and everyone's communication was the cornerstone for the success of the assessment. Credit to Jon and Dane to keeping everyone on track with each part of the assessment and to everyone else's for participating with the discussion and successful completion of each part.
Jon: The team members really did well in the work effort of responding to each task discussion. Feedback & suggestion are great brainstorming items for inputs and how to make the assessment in working order. Thanks to Rav and Dane as they kept the team in the right direction. The willingness of everyone keeps the team moving.

Rav: We were all focused on the assessment so everyone was contributing equally to all parts of the project as we went along. None of us were shy in asking and commenting on what needed to be complete for each part of the project. One of your members, Jon, took it upon himself to lead the group and divided each part of the assessment into Tasks and appointed Overseers through a vote. It not only helped us get started but also started a conversation on what we needed to do.

Dane: I think everyone had a desire to be part of the team, which resulted in all of us pulling our weight in regards to completing tasks. There weren't any arguments from anyone, and there weren't any major disagreements in regards to process. I think that's a major part of the group running so smoothly. Also, the early leadership from Jon. Jon took the initiative and created posts that got the group going early. Reading some of the issues that some groups have been having in regards to people not communicating or participating, I think the fact we all worked together went very well.

Damian: As a group, we worked really well together what we have achieved over the last few weeks has made me feel pretty proud of what we have done. To be honest, at first, I was a bit nervous about group work as in the past it never turns out well but Jon taking the leadership role made sure that was not the case and had us working altogether by splitting the assignment up into separate tasks like a modular form.

Jaime: The level of organization of my colleagues helped to complete the required tasks. The communication was key, to solve our doubts, the canvas was used to carry the sequence and other tools.
Aaron: The group came together and started working together as a team really well. Tasks were issued and owned by members. Everyone did what was expected and asked of them. There was no conflict in the group, which made working together in a team harmonious and enjoyable for each member.

What could be improved?

Group Summary: Despite everyone communicating to the best of their ability, the entire group felt that the tools we used were somewhat lacking in some aspects of communication. Canvas was our primary tool for talking about everything, from the tasks we needed to complete to submitting content, so in the future, we plan on incorporating a messaging platform to allow for easier communication. We will still use canvas for announcements and organizing tasks, but for any ongoing discussions will be done through the messaging platform.

Jon: As we just being familiar in Canvas and this becomes quite challenging to the team. I could see the Canvas is a powerful tool for us, we just need to know how to use it effectively. I suggest that standard rules of use of Canvas can be beneficial to keep things organized. The Announcement in Canvas can be used for updates, follow-ups and task status and then the Discussion should only be used for Task allocation, votes, giving suggestions that related to the task and should not be used

for general communication like (FAQ's, uploading reports, comments not related to the task), the team should have particular communication tools like What's up, messenger tools or Allocated Discussion Article FAQ's. Also, to mention the file compilation is really challenging as everyone have a different approach of how to provide their answers and responses. It could be more appropriate if the members follow the instruction closely and do the task as the same way of other members do, as a uniformed format.

Rav: We relied on using Canvas to organize all the information in the group for the tasks that we needed to complete for the assessment. The way it's set up, however, is difficult to follow and it's hard to see who is commenting on something without having to scroll through a lot of messages. I think we could have used an external group conversation tool that would allow easier organization for conversations around tasks.

Dane: I think as a group we can find better ways to communicate. That isn't an attack either, I just felt sometimes it was hard to understand what people meant, or what was required for certain tasks. I also found it hard to follow discussion threads, and see people's responses in the threads. I also saw evidence of other people having the same issue, as some responses were not where we would expect them to be. Aaron even went to the length of creating a thread specifically for himself as it was difficult for him to find what he needed to do. I still think we communicated very effectively given what we have been able to achieve, I just think we could benefit from finding improvements.

Damian: We were pretty reliant with canvas and I think for beginners it can be a little bit confusing and or daunting to get started with, even though it is a great tool and works fairly well I think there are some other alternatives we would be able to use in the future. Using something like discord could be quite beneficial as we would be able to communicate a bit more with each other on there and it is available on mobile devices also making it easier if you need to get hold of someone quickly.

Jaime: In my case Canvas should improve because at times I lost myself in the publications, without taking the order of my tasks, I know that it has been difficult in my case, for labour issues and language.

Aaron: Using canvas as our main tool for the communication and management of tasks was cluttered and difficult to understand. I have proposed to the group that next time we should consider additional tools to simplify processes. For example, I have suggested a WhatsApp group for timelier team communication, and to ensure we don't miss any notifications. I have also proposed a tasking spreadsheet for the delegation and management of tasks. This would allow us to more efficiently see what we are working on, and what work is left outstanding.

At least one thing that was surprising.

Group Summary: Two things were mentioned for this answer. One was the despite everyone's different work styles we were still able to work together effectively. The other was that, despite our different locations and work timetables we were, again, still able to work cohesively. We have all heard group assignments going awry but, and this is a testament to our abilities in many ways, we managed to be respectful of each other and understand what needed to be done without much prompting.

Jon: Surprisingly, despite time differences of each member we still manage to communicate effectively toward completion of the assessment. I could see that having own workspace is good but also open to members could really be challenging for having a big chance of losing files but because the team is cautious of what potentially could happen, they really work complementing each other.

Rav: The fact that, despite our time differences, we were able to communicate effectively and move on through the project to reach our goal of completing the assessment. Without the tools available to us through today's technology, this would not be possible.

Dane: I was really pleasantly surprised by how well the group worked together. We have all heard the horror stories of group assignments being a nightmare with people not participating, or if there are power struggles within the group. I was surprised that this wasn't an issue at all. I think that's a credit to everyone in our group. Being able to work effectively with strangers and build working relationships is an extremely valuable skill to have.

Damian: To be honest I was nervous about group work but the way our group worked went well has made me feel a bit more confident about it, even though there were differences in time we still managed to work really well together to achieve what we needed and wanted to I couldn't be any prouder right now.

Jaime: What seemed to me the most was the level of help that my companions gave to the moments of meeting with doubts. Aaron: One thing that surprised me was how we all wanted to succeed as a team. We each contributed something different to the group dynamic, and we were all on board to hep anyone out with whatever they needed. It was a supportive and collaborative team environment, free from ego, which I thought was fantastic for a group of people who hadn't even met each other!

At least one thing that you have learned about groups.

Group Summary: Everyone gained some valuable insights into working in a group, the most notable being effective communication will always solve a lot of the problems. Without effective communication, we definitely wouldn't have gotten everything we needed to be done in a timely manner.

Jon: I learned that working with a team using online communication is possible and effective. And also, as a team player, we do need to put the effort as the same level of other members does because it will be so hard for someone to catch up and missing a lot of items for submission.

Rav: I think working in a group can sometimes be challenging as usually there is quite a big task that needs to be completed with everyone's collective assistance. Effective communication, therefore, is an important factor when it comes to working in a group setting; whether that is getting everyone to focus on the task at hand or asking for help with a certain part of the project.

Dane: I have learned that everyone in the group may work differently and that compromise and patience are needed to work effectively. We all have lives outside of study and it's important to occasionally remind ourselves that workflow may not go as we hoped. I learned that the most important thing for a group is undoubtedly communication. I believe that whether the group can communicate effectively will determine the group's success.

Damian: Group work can be difficult at times but the way Jon handled this to make sure we were getting things done was exceptional, he made sure we were communicating effectively and setting tasks and overseers for each task using a voting method I have never really liked group work in the past but I have warmed up to it a little bit now with the way we worked together.

Jaime: I know that it is hard to work in a group, starting with finding the time when we are all free, the group managed well and the objectives were achieved

Aaron: One thing that surprised me was how we all wanted to succeed as a team. We each contributed something different to the group dynamic, and we were all on board to help anyone out with whatever they needed. It was a supportive and collaborative team environment, free from ego, which I thought was fantastic for a group of people who hadn't even met each other!

How well the audit trail on the Git repository reflects the group's work?

Group Summary: We created the GitHub Group Organization and members used Canvas Discussion Article – Task2 asking the team to give their GitHub username to send an invitation and be part of the Group GitHub organization account. We suggest each group member should have their workspace folder in the Repository. Changes in the main project are the most critical situation in building software or a website with a group of people. Only overseers of the task should update or do some changes in the main project files. This will minimize debug error, and group members will communicate in an organized manner. We ask the group to install and be familiar in GitHub Desktop and GitHub CMD pane so when publishing their work into their workspace folder in the repository will be easy for them. I have made every member to be the owner of the repository so that they can access the folder freely. The members are aware of how important not to edit someone's workspace so and to be organized on their workspace. The team did really well on this area.

Jon: I have seen that all members do their best to give work efforts to complete the group assessment. They created their own workspace folder to put all their work items. They keep the folder files organized. We could see who has updated their folders recently and we can easily check and find out what items are new. We reduce the error changing items when every team member become the owner of the repository. Members of the team are all aware of how crucial to editing someone's workspace. On this method, we build team trust in accordance with complimenting each other.

Rav: Everyone has been doing well in keep their files updated within GitHub. We were all made owners of GitHub account so we can add and update all our files easily. We were instructed not to change anyone else's documents as it we would change it permanently for everyone. Respecting that system and each other's work we are doing well in adding our own responses to tasks within our folders.

Dane: Now that we have had couple of weeks to complete more work, I can comment a bit more on how well the audit trail reflects the group's work. It's easy to go into each file and look at the history or the work completed. I think the only issue I have seen is that members have completed a lot of work on Canvas which doesn't get reflected through the audit trail. I think this could be overcome by either having a dedicated file to documenting everyone's work (besides the reflection page) or for everyone to copy their own work on Canvas to their folder on the group repo.

Damian: I have created my folder on the repository and stored my work files there as well as on canvas I also have GitHub desktop on my machine and used this to upload my folder and files to the repository, the audit trail has been working really well and everything is on track as we expected.

Jaime: Already create my folder in the GitHub repository of our group, that help us to develop our website, as well as install the GitHub desktop, to facilitate the cloning of the necessary files, this way we will avoid the confusion and will facilitate the solving of problems in the codes.

Aaron: The repository has been an effective tool for storing all the work we have done collectively in one easy to access place. It allows us to review everything our team has done. The only limitation with the audit trail in my opinion is that is don't fully reflect our groups work, in that it is unable to fully capture the extent of group discussions and communications. For example, our interactions and contributions in these discussion boards and our group meetings. However, overall it is an effective way to capture the final output of the group.

Building Website:

Unsplash.com. (2019). Beautiful Free Images & Pictures | Unsplash. [online] Available at: https://unsplash.com/ [Accessed 11 Apr. 2019].

W3schools.com. (2019). CSS Multiple Backgrounds. [online] Available at: https://www.w3schools.com/css/css3_backgrounds.asp [Accessed 11 Apr. 2019].

Fontawesome.com. (2019). Font Awesome 5. [online] Available at: https://fontawesome.com/ [Accessed 11 Apr. 2019].

W3schools.com. (2019). HTML id. [online] Available at: https://www.w3schools.com/html/html_id.asp [Accessed 11 Apr. 2019].

Team Profile:

Careers Foundation, 2019, *Interactive ICT Career Wheel*, Careers Foundation, viewed April 6 2019, https://www.careersfoundation.com.au/?gclid=CjwKCAjwp_zkBRBBEiwAndwD9XlBeCsn7M2UyvKYqP9042AJoOz9hytzQcs ihTYRcL2pPdDw4iXVgRoCYo0QAvD_BwE

Humanmetrics Inc, 2019, *Jung Typology Test* , Humanmetrics Inc, viewed 23 March 2019, http://www.humanmetrics.com/cgi-win/jtypes2.asp

The Personality Page. (2019). Portrait of an ENFJ. [online] Available at: https://www.personalitypage.com/html/ENFJ.html [Accessed 18 Mar. 2019].

16Personalities.(2019). ENFJ Strengths and Weaknesses 16Personalities. [online] Available at:https://www.16personalities.com/enfj-strengths-and-weaknesses [Accessed 18 Mar. 2019].

howtostudy.com. (2019). [online] Available at https://www.how-to-study.com/study-skills-articles/visual-learner.asp [Accessed 18 Mar. 2019].

Colorcode.com. (2019). [online] Available at: https://www.colorcode.com/media/cc/bonus/pdf/yellow.pdf [Accessed 18 Mar. 2019].

Industry Data:

Burning Glass International 2018, *Top Generic Skills March 2018*, Burning Glass [pdf], Available at https://rmit.instructure.com/courses/59484/assignments/326081

Burning Glass International 2018, *Top IT Job Titles March 2018*, Burning Glass [pdf], Available at https://rmit.instructure.com/courses/59484/assignments/326081

Burning Glass International 2018, *Top IT Skills March 2018*, Burning Glass [pdf], Available at https://rmit.instructure.com/courses/59484/assignments/326081

Writing IT Technologies:

En.wikipedia.org. (2019). Self-driving car. [online] Available at: https://en.wikipedia.org/wiki/Self-driving_car [Accessed 11 Apr. 2019].

Cybersafe Solutions, 2019, *Cybersafe Solutions – Services and Cyber Security Expertise*, Cybersafe Solutions, viewed 6 April 2019, https://cybersafesolutions.com/services/

Morgan, S 2015, *Cybersecurity Business Report, CSO, viewed 6 April 2019*, https://www.csoonline.com/article/2946017/worldwide-cybersecurity-market-sizing-and-projections.html

Noyes, D 2019, *The Top 20 Valuable Facebook Statistics, Zephoria, viewed 6 April 2019*, https://zephoria.com/top-15-valuable-facebook-statistics/

Rouse, M and Clark, C 2019, *cybersecurity*, Techtarget, viewed 6 April 2019, https://searchsecurity.techtarget.com/definition/cybersecurity

The Channel Co, 2018, *The 10 Hottest Cybersecurity Products of 2018 (So Far)*, The Channel Co, view 6 April 2019, https://www.crn.com/slide-shows/security/300106756/the-10-hottest-cybersecurity-products-of-2018-so-far.htm/2

Science Direct. (2019). State of the Art of Robotics. [online] Available at: https://www.sciencedirect.com/science/article/pii/S1474667017637418 [Accessed 14 Apr. 2019].

H., R. (2019). *State of the art robotics | Robotics - AIvoke*. [online] Aivoke.com. Available at: https://www.aivoke.com/news/state-of-the-art-robotics/ [Accessed 14 Apr. 2019].

OpenMind. (2019). *Seven Human Things that Robots Can Already Do - OpenMind*. [online] Available at: https://www.bbvaopenmind.com/en/technology/robotics/seven-human-things-that-robots-can-already-do/ [Accessed 14 Apr. 2019].

TechRepublic. (2019). *Humanoid robot market to double by 2023, industrial robotics to hit $72B*. [online] Available at: https://www.techrepublic.com/article/humanoid-robot-market-to-double-by-2023-industrial-robotics-to-hit-72b/ [Accessed 14 Apr. 2019].

Theguardian.com. (2019). *Robotics can - and will - change our lives in the near future | Advertisement feature | guardian.co.uk*. [online] Available at: https://www.theguardian.com/zurichfuturology/story/0,,1920335,00.html [Accessed 14 Apr. 2019].

IT Work:

Reddit.com. (2019). Solution Architects - What is a "day in the life" like? : aws. [online] Available at: https://www.reddit.com/r/aws/comments/44rt9p/solution_architects_what_is_a_day_in_the_life_like/ [Accessed 14 Apr. 2019].

Quora.com, (2019). [online] Available at: https://www.quora.com/What-are-the-day-to-day-activities-of-a-software-architect [Accessed 14 Apr. 2019].

Hilario, H. (2019). A Day in the Life of a Network Engineer - Computer Training NJ | Computer Courses NJ. [online] Computer Training NJ | Computer Courses NJ. Available at: https://www.pcage.edu/2017/10/08/a-day-in-the-life-of-a-network-engineer/ [Accessed 11 Apr. 2019].

Dargue, J. (2019). A Day In The Life: Dan Ord, Senior PHP Developer. [online] Blog.growthfunders.com. Available at: https://blog.growthfunders.com/a-day-in-the-life-dan-ord-senior-php-developer [Accessed 11 Apr. 2019].

YouTube. (2019). This Is What A Typical Day In The Life Of A UX Designer Looks Like. [online] Available at: https://www.youtube.com/watch?v=ORZlHuD22UQ [Accessed 11 Apr. 2019].

Rasmussen.edu. (2019). Everything You Need to Know About Becoming a Cyber Security Analyst | Rasmussen College. [online] Available at: https://www.rasmussen.edu/degrees/technology/blog/becoming-cyber-security-analyst/ [Accessed 14 Apr. 2019].

this. (2019). What's it really like to be a cybersecurity specialist? | this. [online] Available at: https://this.deakin.edu.au/career/whats-it-really-like-to-be-a-cyber-security-specialist [Accessed 14 Apr. 2019].

The Australian Government, D. (2019). Database & Systems Administrators & ICT Security | Job Outlook. [online] Joboutlook.gov.au. Available at: https://joboutlook.gov.au/occupation.aspx?code=2621 [Accessed 14 Apr. 2019].

Project Idea:

Spadafora, A. (2019). Phishing attacks on the rise in 2018. [online] TechRadar. Available at: https://www.techradar.com/au/news/phishing-attacks-on-the-rise-in-2018 [Accessed 18 Mar. 2019].