COSC2196 – Assignment 2

Cover sheet for submission of work for assessment

SCHOOL: Royal Melbourne Institute of Technology

Program name	Intro to IT	Program code		Office use only
Course/unit name	Intro to IT	Course/unit code	COSC2196	School date stamp
TAFE National Module Unit of Competency (UOC) name		TAFE National Module Unit of Competency (UOC) ID		

Assignment no.	2	Due date	14.07.2019	Name of lecturer/teacher	James Harland
Campus		Class day/time		Tutor/marker's name	Anthony Clapp

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Student signature/s

I/we declare that I/we have read and understood the declaration and statement of authorship.

(1) Md Ajmul Huda	(2) Nadir Mikail
(3) Sanjana Senthilvel	(4) Joseph Garner
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Copies of this form can be downloaded from the student forms web page at www.rmit.edu.au/students/forms.

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Tools

Our group has created a website under the following URL:
https://joegarner125.github.io/G13-Assignment-2/

Our group has a repository on GitHub under the following URL:
https://github.com/JoeGarner125/G13-Assignment-2

The Group's log of activity on Github only shows one member of our team as being active. This is only because he was assigned the task of creating our website. All input and proof-reading of the site was discussed by the team though via a group chat on discord, and then changed or added by that member responsible for the website.

1.0: Industry Data

1.1: Skills Required for our Ideal jobs

General Skills	IT Skills
Communication Skills Problem Solving Organisational Skills Writing Teamwork Troubleshooting Planning Detail-oriented Creativity Research Leadership Time Management Mentoring Quality Assurance and Control Presentation Skills Meeting Deadlines Analytical Skills Team Building Management Multi-tasking English Building Effective Relationships Articulate Self-Starter Decision Making	Business Management Project Management Scrum C++ Python Java Git CodeSys Building Relationships Microsoft Office Suite Enterprise Resource Planning Forecasting Tools Business Analysis C# Oracle Net Programming

1.2: Member's Ideal jobs and descriptions

Md Ajmul Huda, Supply & Demand Planner (non-IT)

A Supply & Demand Planner is responsible for analysing the data from sales & customer orders and using that to plan how much stock is needed.

It's necessary to use material requirements planning (MRP) and SAP to build future procurement plans with overseas and local suppliers to ensure sufficient stock is available in the inventory to meet customer demands.

Maintaining strong relations with the suppliers is very important, being able to communicate effectively and diligently is necessary. A Planner will need to use key forecast data to ensure smooth and favourable negotiations with the suppliers - excellent social skills and the ability to use forecasting tools are vital for this.

Hayley Thrum, Quality Assurance Analyst

Quality assurance (QA) analysts are testers and problem solvers for their company, they test the software or systems for problems while documenting any issues and ensuring errors and bugs are fixed.

QA Analysts are necessary to perfect software or systems. Knowledge of JavaScript and C# are generally required as it can provide insight into the workings. Tools such as Selenium will be used for the testing environment so experience with those type of tools is necessary. As testing is a large part of the role, being adept at troubleshooting and having strong analytical skills is a necessity.

Documentation is a big part of the role so having excellent writing skills and being proficient in the MS suite and other similar tools is necessary.

Joe Garner, Financial Advisor (non-IT)

A financial advisor is a professional that helps clients organize their finances and advises them on how to reach their financial goals.

As a financial advisor, you will be meeting with many clients so being able to communicate well and build effective relationships is important, presentation skills and being articulate are also key to showing the client you care and are confident. Planning, research and problem solving are also important skills to have as you will have to analyse the client's situation and plan out how to get them to their financial goals with the current and future economic conditions.

As the majority of paperwork is now done through computers, knowledge of the MS Suite and other financial tools will be needed.

Nadir Mikhail, Mechatronics Engineer

Mechatronic Engineers is a specialized branch of engineering that focuses on automation and robotics - depending on which path they choose; they could be involved with the software side or the hardware side.

With the rise of automation, Mechatronic Engineers are becoming more in demand to develop, upgrade and improve functions.

Knowledge of programming languages such as C++ and Python will be necessary for the software part of automation, as well as CodeSys and other tools.

Luke Smith, Project Manager or Information Technology Manager

Information Technology (IT) Managers do bits of everything. Some examples include directing the day-to-day activities of the department, analysing data to decide on operational decisions and when necessary, programming. IT Managers fill a necessary role as the head of a team of professionals, they require someone very experienced in pretty much all areas of IT, and most general skills are necessary.

There are a lot of meetings and interactions required in the daily life of a manager, so communication and business skills are necessary. As they are the leader of a team of professionals, they will need to assist them with anything - if a problem arises with anything, the IT Manager will be there to fix it.

Depending on the company and type of team, they may be required to budget and liaise with customers so being able to build relationships as well as customer service skills is crucial.

Sanjana Senthil, Programmer Analyst

Programmer Analysts perform both the roles of a systems analyst and a programmer, they design and develop systems, then implement it by writing, updating or repairing programs.

It is a very demanding job that requires strong problem-solving and analytical skills, to be able to understand things from both a programming and a business perspective is a must. Another requirement is strong communication skills as you will need to liaise with the business and technical teams.

Knowledge and experience in object-oriented languages such as C#, Java and MS .NET are key for the programming side of the role, other languages may be necessary depending on the business.

These are only a few examples of the skills required for these professions, we cover every important and desirable IT and general skills. Our ideal jobs are quite varied, some aren’t even based in the standard IT industries, but they do rely on software produced by the industry.

Job Opinions after Burning Glass Data Analysis

[Md Ajmul] “My ideal job is not listed in the burning glass data because I am from business discipline and I am studying in Bachelor of Logistics and Supply Chain Management. The Supply and Demand Planner job is not a direct IT job but in Logistics and Supply Chain industry IT has a significant use.”

[Hayley] “My opinion on my ideal job has not changed since reviewing the burning glass data. Quality Analyst and the skills needed to be a Quality Analyst are in the top skills in demand and top jobs in demand. As I currently perform some similar duties in my current role and am developing other skills required for the job both by doing this course and doing separate programming courses I am already working towards my goal.”

[Joseph] “As my ideal job is not IT related, by looking through the Burning Glass Data I found no ranking for my job. But I did look for more information on my chosen future career and found what I was looking for on joboutlook.gov.au. This website informed me that the Financial Advisory industry has a steady growth and is foreseen to continue growing. This information has not changed my mind on my ideal job but has only instilled my enthusiasm to work towards being a Financial Advisor.

[Nadir] “The burning glass data had no effect my ideal job position as I already assumed these were skills needed for my selected field.”

[Luke] “My opinion has not changed, as it is an end goal and a fairly high-end position. The journey to that goal will consist of doing the majority of the top jobs in the process to gain all the skills and experience necessary. However, the list of skills required from the data has made it clearer how far off IT management is.”

[Sanjana] “According to the burning glass data, there is some demand for my ideal job; Analyst Programmer. However, it ranks fairly below the list compared to other jobs such as a net developer or graphics designer. This changes my opinion slightly on my ideal job and I will need to reanalyse and conduct further research towards my career goals in the future. There are other jobs that align with my interest in programming and web development and are also in much higher demand than an Analyst Programmer such as a Software Engineer or Senior Java Developer. So, I just need to work towards gaining the necessary skills required for these roles in higher demands but at the same time I won’t exclude an Analyst Programmer role as a potential goal to work towards. “

2.0: IT WORK

- The person interviewed works 2 jobs and each question will be answered twice for each job.
- Interviewee:
- Michael Posey - https://www.linkedin.com/in/mikegposey
    - Senior Security Engineer – Advantage Solutions: Sales, Marketing, Technology
    - Director of Information Technology – Hope Speech and Language Therapy

2.1: What kind of work is done by the IT professional? - Senior Security Engineer

Michael works at Advantage Solutions which is America's biggest marketing solutions provider for manufacturers and retailers. They specialize in offering personalized and customizable technological solutions to increase consumer demand, help with brand recognition, drive sales and realize new levels of operating efficiencies both logistically and within the business itself.

They are a marketing company that through comprehensive lists of use cases and collected data they can manufacture a plan and system for implementation to increase a stores functionality and efficiency to then optimize margins and generate traffic through proven marketing methods. They don't operate within one specific industry; they cover a range of business formats and act in an agent's capacity to customize a solution to the client's needs, from retail to service providers.

"We've got 40 years of retail marketing data that provide analytics and informative decision-making precedents to make decisions." (M. Posey, personal communication, June 26, 2019).

As a security engineer within the company, the main component of the job is to help safeguard the organizations computer networks. They plan and carry out security measures to monitor and protect sensitive data and systems from infiltration and cyber-attacks.

Part of the job requires the security engineer to test and attempt to breach the software to find out if there are any weaknesses inside the code. They call this

process the security development lifecycle (SDL) where they ensure the program and software is stable so that it can be released and provided for users. Should there be any sort of breach or hack it is a priority to get patched as soon as possible. Minimizing downtime restricts the amount of information that can be leaked as well as it's in the best interest of the client to have their software up and running quickly to maintain a good business image.

An example of an integrated solution would be providing a business or client with secure networking infrastructure incorporated within the Point-of-Sale (POS) that automatically notifies suppliers when stock levels reach a certain threshold so an automatic order can then be put through. This would all be maintained, managed and patched externally. This set-up is an option provided for larger companies that sell various products. There are many other optimizations and analytic integrations that can be provided and monitored by the supplying company.

2.2: What kinds of people does the IT professional interact with?

Interactions between other engineers and analysts are important because cross-checking work and having another perspective on a system or design can help with providing a more stable solution. Newer staff are mentored and properly briefed on what the job description is and how to operate to maintain proper processes by more experienced security engineers. Corroboration with staff on certain practices and security measures help with enforcing a satisfactory service and consistency for which the brand is recognized.

It is an important part of work responsibility for the IT professional to act as a translator for the organization, briefing in staff meetings on what's happening regarding the IT department and their organisational innovations. Regular training is conducted by Michael throughout the year and presentations are delivered to various branches of the company warning of certain dangers and educating on proper cybersecurity safety protocols. "A regular type of attack is known as 'Phishing' where a seemingly innocent e-mail can contain a link with malware. Explaining the dangers of certain threats is a regular reoccurring discussion and a part of the cyber security awareness program."

(M. Posey, personal communication, June 26, 2019).

2.3: Where does the IT professional spend most of their time?

Michael works from home most of the time, he lives 2 hours away from the office. Recurring meetings and discussions are done through a program called 'Skype for Business'. When he is required to go to the office, it's typically for presentations or important meetings. When organizing vendor negotiations and contracts with clients, he sometimes travels to these locations representing the IT side of the business and the options they can provide for the interested party. There are over 180 remote offices in the United States alone and he has been required to travel to multiple locations for presentations and meetings.

2.4: What aspect of their position is most challenging?

As with most IT positions communication is an important skill required especially when it comes to explaining what exactly they can provide as a service to a customer/client. Having a salesman like an attitude and delivery and explaining in a digestible way what kind of cybersecurity and integration services they can provide. Often applying real business precedents and the solution they offered and how that metrically translated to profit and ease of use.

Michael states another challenge that presents itself is operating under budgetary constraints and doing as much as you can with as little resources needed. To find the simplest solution for a job and maintain a certain standard for operations is a challenge that constantly needs to be met with efficiency improvements and new methodology.

2.5: What kind of work is done by the IT professional? Director of Information Technology

Hope Speech and Language Therapy is a small business that helps people with speech therapy. They have an IT department consisting of 6 employees and their jobs include maintaining the servers, encrypting and securely storing patient's data. Website maintenance and digital marketing are all covered under this department. Michaels role within this business as head of IT is to provide leadership and direction to the staff. From delegating tasks based on staff skills and abilities to maintaining the software at the facility and updating the machines.

He is also the person the small business owner goes to when a certain technological goal needs to be met. Such as sourcing new machines and incorporating the necessary software. Moving to a new POS or software and managing the integration of the previous customer's files and data to the new one.

He is responsible for training new IT staff and familiarising them with the backend of the business's intranet. Teaching all staff, the information security protocols and data compliance requirements of the patient's records and how to manage it as well as and navigation of the business's portal. His role also includes providing analytics with ideas on what sort of changes can be made for the business to operate more efficiently from an IT perspective.

2.6: What kinds of people does the IT professional interact with?

Most interactions are with the business owner in order to align organizational goals with IT solutions. As the IT Director, he interacts with IT staff for the assignment of new tasks. In addition to mentoring staff, the job responsibilities entail helping therapist staff with any sort of technical issue regarding the software that couldn't be resolved by themselves.

2.7: Where does the IT professional spend most of their time?

Michael mainly works from home and comes in if needed because of a big problem or just for regular meetings.

2.8: What aspect of their position is most challenging?

A challenging aspect of being an IT Director is balancing the best service they can provide under the budgetary constraints of the small business. Difficult is occasionally encountered when trying to maintain positive and healthy relationships with staff from an authoritative role. Establishing a corporate culture where working hard and efficiently is encouraged and rewarded is ideal but progressing to that point takes time and effort.

3.0: IT Technologies:

3.1: Cloud, services and servers

3.1.1: What does it do?

The cloud is many servers that are connected to the internet and operate as a single ecosystem. It is storing and accessing data over the internet instead of your computer hard drive. Cloud services offer the ability to access software and programs to the user via the internet. Examples of cloud services include Google Drive and Microsoft Azure.

Data centres require hardware setup and software patching. Any possible downtime due to hardware faults or overloading of physical servers can be avoided by moving the load to other servers. The servers are monitored and maintained by cloud experts to minimize any downtime and issues. The flexibility of cloud technology allows the organization to upscale or downscale any IT requirements to meet the needs of their business without significant changes in cost.

There are three categories of cloud computing service models. Infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS). IaaS provides customers with virtual servers and data storage. PaaS is providing the customer a platform to develop software and product development tools and SaaS is providing access to already existing softwares.

There are many ways in which cloud technology is being used today. It increases productivity due to the ease of collaboration and synchronization of projects. Documents, presentations and spreadsheets can be worked on anywhere and multiple users can edit the same document. An entire team can work on a project regardless of where they are in the world.

It is also extensively used for social media applications such as Skype and Whatsapp which are both based on cloud infrastructure where messages are stored on the service provider's hardware so information can be accessed anywhere as long as you have a connection to the internet.

Cloud computing is also used on an enterprise level. Businesses are using it to manage and maintain business resources. Popular examples of business management software are customer relationship management (CRM) and enterprise resource planning (ERP).

Due to a generation shift, we will see people who have lived through a cloud based world become CIO's of companies who are ready to adopt cloud-based technology in their companies. An increasing number of companies will be using this technology and it will become even more widespread than it is today. As competition rises between companies who provide cloud services, there will be technological advancements that provide more efficient and faster transfer of data.

Within the next three years, the cost of cloud services will greatly decrease as technological advancement increases. Lower power processors will be developed and companies will be able to use power efficient chips in their data centres. This can cut electricity usage and as a result they can provide cheaper cloud services to their customers.

3.1.2: What is the likely impact?

There are positive and negative impacts of cloud technology. It is predicted that from 2020, cloud computing will be a major part of enterprise computing infrastructure. Organisations will add support to cloud technology on an enterprise scale. 'Analyst group Forrestor expects the global computing market will grow from $35bn in 2011 to $150bn by 2020 as it becomes key to many organisations IT infrastructure.' (**Clark, J. (2012).** ***Cloud computing: 10 ways it will change by 2020, paragraph 3)***

Cloud technology can affect the day to day lives of an individual, from their workplace to social media. As business adapt this technology, employees will need to get comfortable with using this technology and become more 'tech savvy'. There will be a change in workload as there will be new responsibilities for individuals. Due to the generational shift where younger people are raised in a technology based world, it will be used extensively in performing work related operations. In terms of social media, cloud based infrastructure has allowed the development of social media applications. People now have a platform to voice their opinions and politicians and public use this medium to convey their opinion. As this becomes more popular, it leads to a greater connection between public figures and the general public.

There will be a major positive impact on development and health. There is no need to invest in infrastructure that can be costly for developing countries as they can take advantage of data and applications that are available in the cloud. An example of this is the telecom industry. By disregarding traditional wire and copper infrastructure, developing countries have been grasping smartphone technology to increase development. In terms of health, patients will be able to track their own health and any treatments and share this data among medical and health care professionals via the cloud. Hospitals will adopt cloud-technology to have easier access to health-related information of all their patients. Operational costs such as data storage will be reduced and patients can access the data via their mobile phones as soon as information becomes available instead of having to visit the hospital to see their results.

Redundancy due to the increase in cloud based technology is possible in the foreseeable future and this is already evident when in 2015, Zynga, a gaming company had moved their workloads to Amazon Web Services. This lead to more than 360 people losing their jobs. Data centre technicians are at risk however when jobs are eliminated due to technology, new jobs arise and companies will need to retrain their staff to adapt to the new technologies that arise.

3.1.3: How will this affect you?

As the world is moving to an era of the cloud, my demands and thinking are being shaped to expect to get results immediately with maximum cost efficiency in terms of navigation, online shopping and my social circle.

I can expect to see tools I use such as Google maps which utilizes the cloud to become faster and more accurate. Online stores are increasingly using the cloud to store information and provide a better customer experience as well as a marketing strategy for their business. How I use Whatsapp and Facebook will change as these companies store information in a more efficient manner and allow the user interface to become more user friendly.

I see my friends and family benefiting from the health related cloud technology. I expect to see an increase in the standard of quality as clinics can provide services that are comparable to the services that are provided by IT organisations. As healthcare becomes digitized, it will improve the patient's experience for my friends and family. As stated earlier, patients will be able to access their health data as soon as it is released from hospitals and it can be shared with other health care professionals

As cloud technology becomes more prevalent in organisations, there will be a reduction in certain IT roles and the creation of new IT positions. Data centre technicians and database administration roles will see less demand in the future and there will be in increase in demand for software developers and cloud engineers. As I am planning to get into IT as a profession in the future, this will affect me as I need to learn skills that will be in demand in the future and adapt to these changes. I will have to learn cloud related skills such as MySQL, Hadoop, Python and Ruby which are all skills that are rising in prominence in the cloud ecosystem.

3.2: Natural Language Processing

3.2.1: What does it do?

With all the advancements in technology occurring in the world, it's hard to keep track of everything. From computer driven cars to advanced space travel, it seems humans are capable of creating anything they set their mind to. While they are capable of such extraordinary feats, this begs the question; are humans still more intelligent than their creations? Imagine being able to get diagnosed by a robot doctor in your own home, with far more accuracy than any human alive? I'd buy that for a dollar!

In fact, these types of technologies are already in market and changing lives, using the wonders of Natural Language Processing (NLP). NLP is the process of a computer program being able to understand the human language as it is spoken and written. This technology draws from many different disciplines, including computer science and computational linguistics, in pursuit of filling the gap between human communication and computer understanding.

There are many simple tools already in the market that enable consumers to utilize Natural Language Processing, such as products in the Amazon Web Services such as Lex (https://aws.amazon.com/lex/) and Comprehend (https://aws.amazon.com/comprehend/). Another useful service is the Natural Language Toolkit (https://www.nltk.org/) which provides the information to build Python programs to access human language data.

NLP is considered to involve at least the four following segments – Signal Processing, Syntax, Semantics and Pragmatics. Signal processing is the functionality to take spoken word as the input and convert this to text, whilst syntax analysis will look at the grammar of the text that is created. The semantic analysis will then go through and examine the meaning of these words and the way they interact. Pragmatics looks in to the meaning of the text and its function on everyday life, so the larger context of the conversation.

An example of natural language processing that is already readily available and used all over the world is chatbots that are visible on a multitude of websites. Chatbots are able to process the information given to them by the consumer, then return any relevant information based on the interpretation of the received text. As per the below diagram, consumers are able to communicate via multiple methods with Chatbots, These chatbots use natural language processing to interpret the text, then interpret all the information within the data store and knowledgebase of the relevant product, then provide an appropriate answer to the consumer.

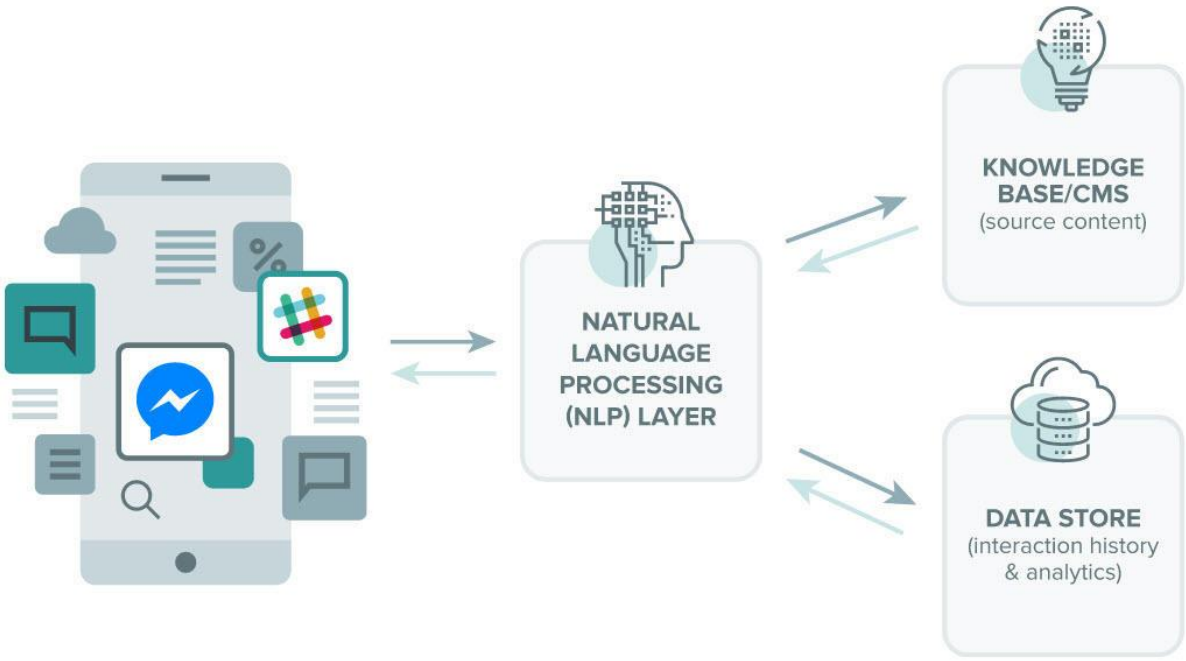

Image via https://www.wizeline.com/chatbots/

A more life changing example of NLP in the real world, is how it is being incorporated into the medical world. There are a multitude of research papers and articles online that detail the way natural language processing has impacted the medical world, such as the article on detecting infectious disease symptoms in primary health care records on the National Centre for Biotechnology Information website (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6026305/).

A Clinical History Extractor for Syndromic Surveillance (CHESS) was developed, which allows natural language processing algorithms to extract clinical information from free-text primary care records. Their algorithms were able to read through the free text files, recognise and pull out information relating to 48 signs and symptoms relating to infectious diseases, as well as other symptoms associated with infectious diseases and the assertion status and symptom duration.

3.2.2: What is the likely impact?

Thinking about the ways natural language processing has of impacting the world, the possibilities are endless. Taking the example of the detection of infectious disease symptoms mentioned above, this has the possibility to both save lives and increase the accessibility of patient care. The assistance of chatbots within Medical Practices that have used natural language processing and machine learning would give the ability for patients to have an initial consult with a computer, and then the computer would be able to provide all the relevant information and suggestions to the attending Doctor.

This would free up time for the Doctor to attend to more patients and allow the patient to have more detailed care as the chatbot assistants would be asking more in depth questions and be able to process, cross reference and collate all the information into a detailed report for the Doctor.

From a separate perspective, with things like chatbots becoming the norm on most businesses online, it will make services and products available 24/7 as you will always have a chatbot to speak to and provide you valuable information that you would come to expect from a human, and at a faster pace and potentially more accurate.

3.2.3: How will this affect you?

Looking in to how it would affect me as an individual, as a professional in the IT industry working in a support desk for a Medical Software company there is the fear the reality joked about in movies and television shows will come true, and robots will take over our jobs. From my perspective though many people tend to love personal interactions therefore there will always be someone who prefers to speak to a person over a computer. We can see this type of behaviour still in stores like Coles and Woolworths, where some customers will always prefer to go to a operated service desk rather than a self-serve checkout.

I see natural language processing being more sought after as an analyst tool and bringing in the ability to analyse and comprehend information so much quicker than a human. The option to send multiple different sources of information from multiple different people to the one location which allows it to be analysed sorted and then provide information such as effectiveness of treatments, potential outcomes and common factors would look to change the lives of both consumers and suppliers of data. This would help me do my job by being able to provide more accurate information to our customers, and at the same time, give them the accessibility to access information at any time they want with a 24/7 chatbot and have a wealth of knowledge available due to all the relevant information being pulled out and supplied in a easy manner.

I look forward to the next few years, where what has already become a part of a few industries, will become a large part of the greater world and everyone will be benefitting from natural language processing in their daily lives.

3.3: Machine Learning

3.3.1: What does it do?

To fully understand machine learning (ML) the greater context of artificial intelligence (AI) needs to be defined. Artificial intelligence is the replication of human intelligence executed by machines and computers. This is usually done by acquiring information based on defined metrics to be analysed or measured and whether they are positively or negatively influencing an outcome. A set of rules are then applied to estimate alternate conclusions, and finally the system then self-corrects so that it can determine whether a better possibility is available in a future trial.

AI is usually placed in two categories – weak or strong. Weak AI is typically used for specific tasks and typically operate under environments with less variability and operate within set parameters. Apple's Siri is an example of Weak AI, the responses are pre-programmed based on what is likely to be asked and then relies on finding the requested information through its access to various application programming interfaces.

Strong AI is also known as machine learning is an AI system with generalized human cognitive abilities. Strong AI's can find solutions to complex and unfamiliar tasks without the need for human intervention or any sort of specific programming. Machine learning aims to increase accuracy through extensive data collection and constantly adapts to optimise completing a task.

This technology has permeated the mainstream to the extent that many people aren't even conscious of a lot of its applications. Some of the applications are:

Image Recognition – Through various metrics such as colour intensity, images can be translated into RBG values and then statistically analysed. Image recognition can also be used to detect writing styles and find similarities between them. Even the miniscule details of bone structure and facial posture can be taken as data. This technology has been used by law enforcement for tracking and finding individuals of interest.

Speech Recognition – Where voice is converted to an encoded text file and then decoded execute an order such as translating to another language or issue a command to the machine (such as Siri). These technologies have learnt to adapt to the idiosyncratic nature of the user's voice.

Medical Diagnosis – Used to aid with the diagnosis of diseases, as the medical field has an abundance of rare diseases and conditions popping up many doctors aren't able properly diagnose some issues, whereas a machine with an extensive congregation of data and similar case data is able to detect issues sometimes doctors cannot. It also can provide prognosis predictions and can be used for patient monitoring.

Marketing and research – The ability to detect patterns in customer behaviour and by studying the associations between products and customers and their spending habits it allows marketing and research departments to then tailor their advertising and product location to the people who are more interested.

Classification – Filing individuals within classes based on certain factors, such as a bank customer's ability to repay a loan within a period based on previous cases of people with similar jobs, incomes or living situations. Rates and figures are based on the information analysed by these machines to balance pricing with the customers situation accurately.

Within the next 3 years this technology will continue to advance. Mostly through more optimising methods of compiling and using the data from the machines themselves. As processing hardware continues to improve it allows for the computations per second done by this AI to also increase allowing for faster solution times and more alternative calculations to be made. Speech recognition has ways to improve especially, translations are relatively accurate at this point, but it hasn't fully realised the ability to translate certain dialectic tendencies and translate those accurately. Translation devices have difficulty telling the difference between expressions and literal terms as well, but as the ways of aggregating and using data improves so will these technologies.

Machine learning is a process that requires a lot of data processing at once, naturally they need to be run on very powerful computers, top of the line graphics processing units, central processing units and memory are used and typically as these components improve so does the machines performance when it comes to processing and dealing with data.

3.3.2: What is the likely impact?

The impact of machine learning has infiltrated many different industries. As the technology improves it surpasses the limitation of humans in many jobs by having ability to remember past events and use them when making decisions and the speed at which it can.

Most of the first world is affected by machine learning directly or indirectly. Through social phone applications such as Instagram and Snapchat, image recognition is used to alter and warp facial features. Speech recognition apps help when travelling and bridge the communications gap between different countries. Machines to help with medical diagnosis help save lives that otherwise might have been lost due to very rare conditions a doctor may not have been aware of, and free up hospital staff with automatic patient monitoring. Marketing is often now directed specifically at people who machines have determined would be interested in a certain product. Taking out loans and insurance rates are now based on a person's stats and the price is calculated by machines.

Many jobs will be made redundant as these technologies become cheaper and more readily available for individuals and smaller businesses. Analysts such as economists, meteorologists and stockbrokers will eventually find maintaining a job in the field difficult. These tasks will eventually be calculated at much cheaper costs than hiring someone. A lot of these fields rely on analysing trends and graph patterns and a machine can process more information and faster than a person can. Tour guides may also become scarce as language translation applications can allow for communication with foreigners and future applications might be able to figure out a customised destination for the user based on interests or hobbies. Managerial positions may also have a drop as a machine can possibly delegate tasks better than a person can with eventual improvements in the technology.

3.3.3: How will this affect you?

For example, Nadir's parents are both surgeons and they have machines already in use at their hospital that allows the doctors to corroborate data with the machine and helps with providing a better solution for the patient.

AI has been involved in his gaming life for quite a while, OpenAI is an American company that has developed a DOTA 2 (video game) AI, within a year of development it's now better than the best team in the world. He frequently practises against bots at my work because sometimes there's downtime, but if he is needed to attend a task, he can pause the game with bots.

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Online streaming platforms such as YouTube and Netflix have frequently recommended videos and movies to watch which are great. These recommendations were based on how long he has been on a page, whether he left comments on the video and how highly he rated it. Online marketing platforms such as eBay has recommended items of interest based on purchase history and frequently informs him of newer gadgets that I previously didn't know existed.

His wireless speaker at home uses an intelligent assistant and enable him to be able to get it to play different types of music when he is working out or just relaxing. It's been trained to recognise his voice and can play tunes off very broad requests. As the technology improves it'll start recommending or tuning music based on feedback given.

One of Nadir's friends has a Tesla car, and it can self-drive on highways and other long sections of road. Automated driving cars are equipped with machine learning algorithms and translates raw complex visuals into actionable information. This technology seems to be the future of motorised technology and will only get safer and more reliable in time.

3.4: Blockchain and Cryptocurrencies

3.4.1: What does it do?

Blockchain is a public ledger of transactions which is distributed in a **decentralized** nature, meaning that it does not rely on a central point of control. In terms of the transaction, participants can transfer currency to another account by using blockchain technology without having authorization from central clearing authority. The word blockchain can be separated into ‘block’ and ‘chain’. In this context, the block is the ‘public information’ and chain can be said ‘stored in public database’. Blockchain can be used for fund transfers, voting, settling trades and so on.

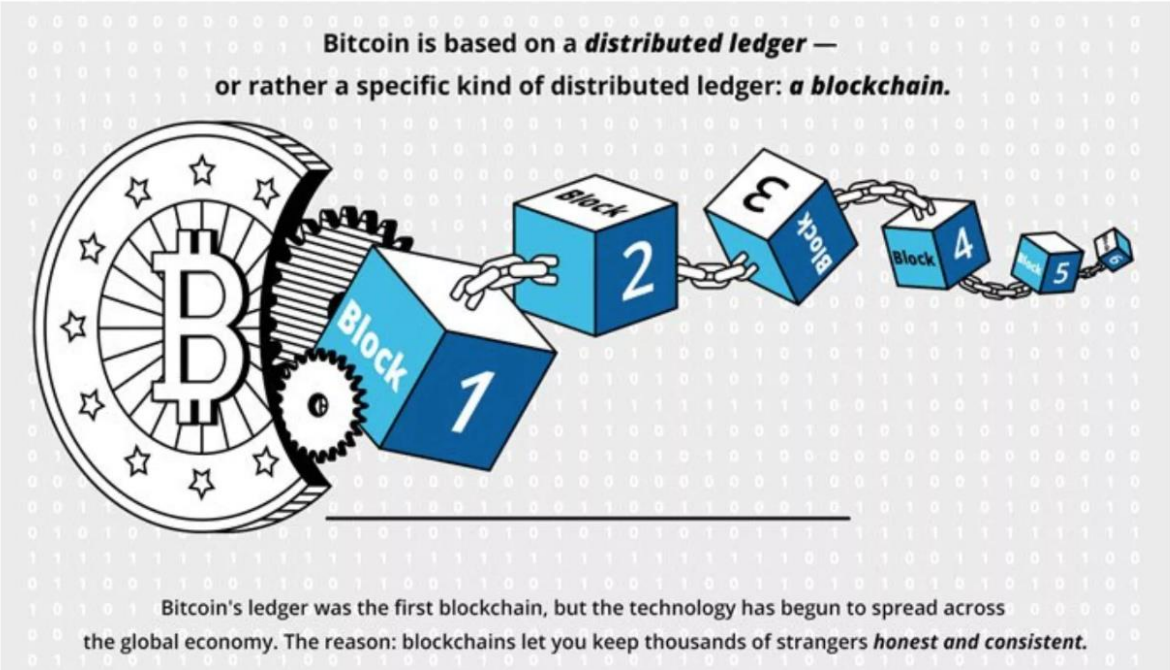

Figure 1: https://www.investopedia.com/terms/b/blockchain.asp#blockchain-vs-bitcoin

A Cryptocurrency is a virtual currency used as a medium of exchange. Cryptography is used in terms of verifying and securing transactions, while at the same time controlling any new Cryptocurrency creations. Participants cannot create new cryptocurrencies until specific conditions are fulfilled. Currently, there are various Cryptocurrencies in the market, for example; Bitcoin, Ethereum, Ripple, Bitcoin Cash, NEM, Litecoin, IOTA, etc.

In 1991, Stuart Haber and W. Scott Stronetta first outlined blockchain technology by focusing on implementing a system with untampered document timestamps. The system allows blockchain to store digital information but not edit. After two decades the blockchain had its first real-world application when Bitcoin was launched (FORTNEY 2019). The protocol of Bitcoin is built on the blockchain. Satoshi Nakamoto, the pseudonymous creator of Bitcoin referred to it as, "a new electronic cash system that’s fully peer-to-peer, with no trusted third party.”

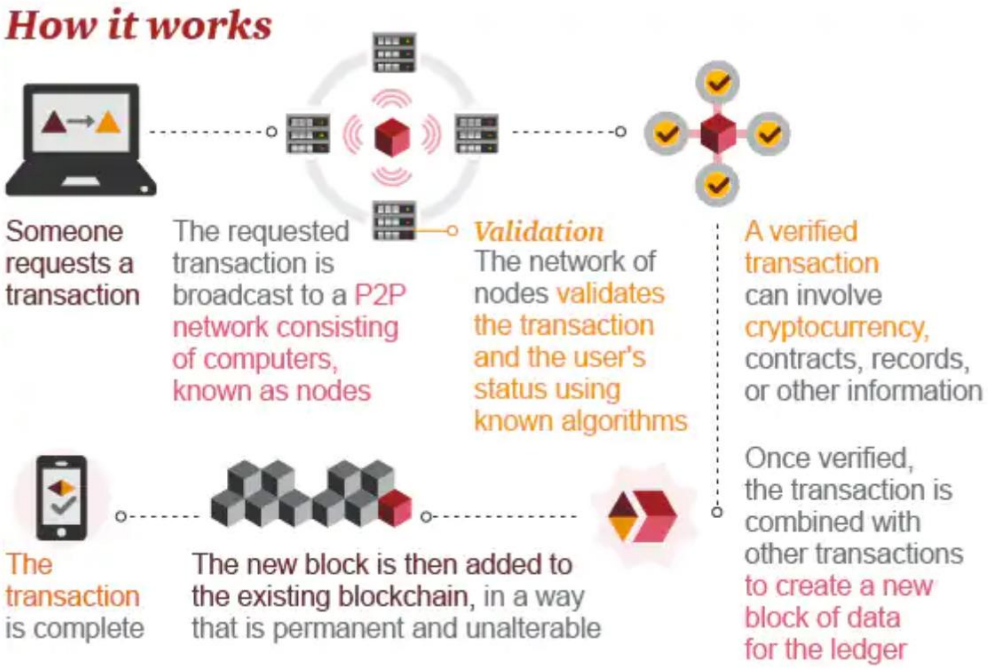

Figure 2: https://www.pwc.com/us/en/industries/financial-services/fintech/bitcoin-blockchain-cryptocurrency.html

Printed money has regulations in place and currency verification is regulated by a third-party organization, most prominently a bank or government. Bitcoin, however, is not regulated by any banks or governments. A network of computers is verifying Bitcoin transaction.

When a person uses Bitcoin to purchase goods, computer networks verify the transaction. In order to verify the transaction, the computer runs a program to solve a mathematical problem, called 'Hash'. By hashing the block, the program verifies the transaction, which then is publicly recorded and stored in the blockchain. At this point in the sequence, the transaction will become unalterable.

If we consider the Cryptocurrency growth, for example; only Bitcoin has around 14 million circulations. The investor is focussing on the emergence of new technology and it will drive the current market capitalisation until the achievement of market acceptance and price stability(USA 2015).

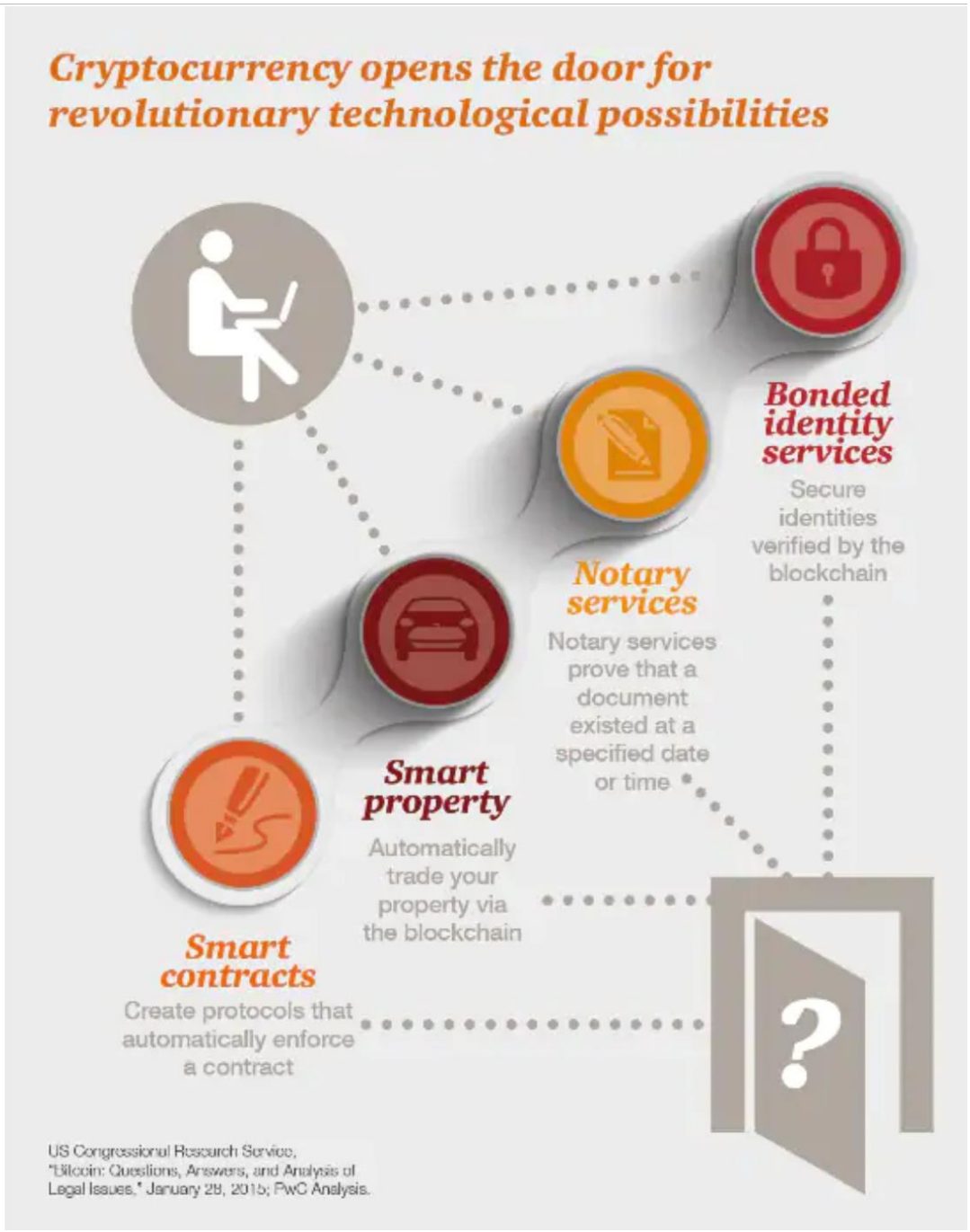

Figure 3: https://www.pwc.com/us/en/industries/financial-services/library/cryptocurrency-evolution.html

3.4.2: What is the likely impact / Personal effect

From a business perspective, it is prudent to consider blockchain technology as a next-generation business process improvement. The business process occurs between the companies can be lowering the cost of trust by using technology like blockchain. Considering this aspect, it may bring more returns from investment than traditional investments. Some of the financial institutions are also looking for paths into how they can involve blockchain technology in their upend to the clearing and settlement of the insurance.

Goods buy: In the traditional marketplace Cryptocurrency is still not that much available. This is an impressive feat when only a few years ago, there was difficulty in finding any type of crypto merchant. So, the use of Cryptocurrency is growing day by day. Nowadays, there are many merchants who accept Bitcoin online and offline. People can pay for hotels, jewellery, flights, even a college degree by Bitcoin. Day by day things are changing and Apple has authorised around 10 different types cryptocurrencies which can be used in the App Store. There are some online stores which retail in selling gift cards online that also accept cryptocurrency as payment (Cointelegraph 2019). Marketplaces such as Bitify and OpenBazar only accept cryptocurrency.

As with any emerging technology, using blockchain public ledger technology poses the potential possibility of disruption on a wide variety of transactions. This is included but not limited to bonds, stocks, and other financial assets which, while recorded digitally, still require verification by a trusted third party. As this technology grows and develops, interested companies should be more inclined to invest in blockchain software now before it becomes fiscally impractical to follow the technology trend. The blockchain was a start-up idea and within a short time, it became an established technology. Blockchain technology is utilised on a standard computer, creating accessibility for regular customers. As an emerging technology blockchain will be a competitor for many financial services.

This is the time of globalisation and the business is moving forward globally and expanding bigger than ever. In the age of globalisation, some organisations are required to operate their business matters from multiple countries, with different time zones. In the interest of product procurement processes, businesses are sometimes required to source product from all over the world. In the procurement process, money transactions and transfers can sometimes incur additional fees, which ultimately increases the purchases price. These additional fees can be produced from simply transferring currency, which would become extraneous with the use of Cryptocurrency.

As Cryptocurrency increases in popularity, government bodies such as tax agents, law enforcement authorities and legal regulations throughout the world will need to adapt their current legal framework to fit this innovative concept. As a self-sustained digital currency, Cryptocurrency differentiates from the traditional monetary systems wherein it does not belong to a physical shape or singular entity, which can become problematic within the regulations of certain countries.

In any country, the government has a set of rules and regulation regarding the use of money, income tax, and illegal transactions. Moreover, the government has a law for money laundering and taxation. As a decentralised system, people can make transactions anonymously which will raise concern for increasing illegal trades of goods and service. Due to this somewhat uncontrollable situation, Cryptocurrency could face a lot of pushback. There are a few countries who already have outlawed the use of cryptocurrency, a few examples being China, Russia, Bangladesh, and Vietnam. Other countries may not have outlawed the online currency yet, but the regulation must be very strong. Also, the regulations always vary country to country. (Cointelegraph 2019).

Before the media coverage, not many people knew about Cryptocurrency. Social media especially was the main reason for the hype centered around Cryptocurrency, which resulted in a spike of Bitcoin investments. But, without knowing properly or having proper knowledge about the digital currency it is not wise to invest. The market of Cryptocurrency is not stable and fluctuate continuously. In Zimbabwe, the price of Bitcoin is higher than in other countries all over the world because of decentralised technology. So, it can be said that decentralisation is not always good for everyone(Guzman 2018).

Advanced technology such as Cryptocurrency and blockchain, when used constructively and fairly can be a useful tool for regular people and big businesses alike. When proper regulations are put in place and Cryptocurrency is recognized and standardized on a global scale, it will change the look of regular marketplace transactions.

4.0: Project Idea

The project for our group is a language mobile application called Clever Language. It is like the Shazam equivalent but for conversation. The app can listen to the audio in another language and directly give you the translation in the chosen language in context. Instead of a robotic voice, you will hear a natural-sounding translation of the word or phrase. You can also enter a word or phrase in any language and the app will show you that word in the context of how it is used in a sentence through both audio and video as well as a definition.

4.1: Motivation

Clever Language differs from other language apps as other apps typically do not show how the word is used in context and simply only provides a standard definition of the word. They translate directly from the English word and it does not always make sense due to context. In other apps when a word is translated in audio format, you are given a robotic voice which can get the pronunciation completely wrong. Some languages also differ from how it's spoken to how it's written. The written version can often be too formal to use. You usually have to ask someone who knows the language or spend time researching how the word is used in context. Other apps are not very helpful in immersing yourself in a language and can use the word in the wrong situation as you may not fully understand the context it is used in. The aim of this app is to have a human-like translator with you at all times. Unlike other apps which act more like dictionaries, it will help you fully understand the language.

4.2: Application

This app can be used on an enterprise level with global sourcing. With the need for companies to communicate internationally, Clever Language can be used as a tool to provide the training necessary to liaise with overseas suppliers. It can increase the productivity of businesses as errors due to miscommunication with the supplier/vendor can be diminished. Businesses can also use it when outsourcing their operations overseas. For large businesses with a number of branches and networks overseas, good communication is vital between countries to ensure the quality of their services.

Moreover, Clever Language can be a financially viable alternative to interpreters for the Australian government. Interpreters are a hefty cost to the government and revenue can be saved through implementing this app for many of the services provided by the government. It can be used to communicate with and help refugees. Hospitals will be able to provide a better service to patients who are unable to speak English. It can be used in court cases as well as other government agencies such as the Australian Taxation Office, Medicare or Centrelink.

4.3: Description

This app will be available for both android and ios devices. You can select what stage you are in the language. For example beginner, medium or advanced and it will initially show you the most common phrases and words you need to know in that language. As you progress through the stages, it will teach you increasingly complex words and phrases. You will be able to enter words through text or dictation or record audio in the background and the app will provide the translations in context.

There will be a library of over 500 million + words in both audio and text of a variety of languages and a match will be made. The audio translations will be translations from an actual human voice instead of an algorithm. For the audio feature, speech technology is used and matches it from a central database, similar to how Shazam works.

Through the use of video and audio, a person can fully understand how a word and phrase is used properly in the right environment. For example, there is a saying in German that goes, “Tomaten auf den Augen haben”, which translates to English as “You have tomatoes on your eyes”. It does not make sense in English as the direct translation is “You are not seeing what everyone else can see”. Clever Language is called Clever Language as it will tell you the correct translation used in day to day speaking.

Firstly, the database of both audio and text of the different language needs to be created. Speech recognition technology also needs to be developed. An algorithm also needs to be created to match your input of either speech or text to the central database. All of this can be completed through python. The above technologies need to be integrated into the format of an IOS or Android application. The visuals and designs of the app, as well as the user interface, is the next stage of this project. Final features can be added such as the ability to track your journey, rewards for reaching certain goals and the ability to communicate with other language learners.

Difficulties I may face when developing this project is the need to create a library that will have around 500 million + words. It is not possible to have a voice artist record this many words however the entire point of the app is to have natural-sounding translations. A possible solution to this problem is normal users can have the ability to create an audio translation of a word or phrase that has not been translated yet and upload it to the database. Similar to a Wikipedia of the language learning world. People can vote on the most correct translation and then that translation will be the official result when someone searches up the translation.

4.4: Planning

Luke is the IT project manager of our team. He will have the overall responsibility of initiating, planning, designing and monitoring the operations of the project. He will develop schedules for what needs to be done and enforce deadlines of tasks. He will provide team leadership, motivate the staff, organize group meetings to discuss the status of the project and develop the document outline for our project. As the app will have a large database, Luke will need to run regular checks on network and data security. As users can create an account on the app, he will also be responsible for the security of user account information.

Joseph is a financial project manager for our team. He will need to develop a budgeting plan that looks at all the expenses including hiring linguists and voice artists. He will need to examine the pricing of the software such as Adobe Creative Cloud or Android Studio. The developer fees for hosting the apps on Android and IOS devices need to be considered as well. He will need to create strategies to reduce costs for the team while not compromising quality as well as working alongside the IT project manager when it comes to making financial decisions and monitoring financial details to ensure that legal requirements are met.

Sanjana and Nadir will be responsible for the programming of the app itself. We will develop the code for the speech recognition technology as well as work on the database of words and phrases. To develop the IOS and Android applications, the languages Swift and Java are required along with Xcode to develop apps for IOS and Android Studio for Android. We will need to create the user interface of the app using Adobe Creative Cloud and ensure it is clean, smooth and easy to navigate for the user. We will review the app on a frequent basis and make any necessary adjustments to ensure proper functionality of the app.

Clever Language is the product of A13 Technology, so we need logistics support for the production. Ajmul will be responsible for the logistics and supply chain management of our product. He will liaise with internal and external stakeholders such as the project and financial project managers on sourcing the linguists and voice artists and all the required tools according to the project outline and budget requirements. He will be responsible for sourcing the testing devices required for checking quality, performance, and reliability of the app. Finally, take the apps to target customers. He will liaise with businesses and customers to discuss the most appropriate service the app provides that will be suitable for them.

Hayley is the Quality Analyst and will be responsible for the overall quality of our operations and the app itself. She will investigate and set standards of quality and ensure that the production of the app complies with standards on both an international and international level. She will work alongside the programmers of the app in performing testing of the app to identify any bugs present and provide suggestions on how the app can be improved. She will handle customer feedback and reviews of the app to investigate any issues and ensure the user has the best possible experience.

4.5: Tools and Technologies

To create the database and speech recognition technology, the language Python can be used. To develop the IOS and Android applications, the languages Swift and Java are required along with Xcode to develop apps for IOS and Android Studio for Android. The database and speech recognition technology need to be integrated into the applications. Adobe Creative Cloud can be used to create the visuals and user interface of the application. A Mac computer, as well as an IOS and Android device, is needed for testing purposes. GitHub can also be used to keep track of all the updates created to the project.

5.0: Team Group Reflection

As a group we managed to work through the assignment with little to no conflict and issues or confusions were well mediated and addressed early before they became a bigger problem. We assigned tasks early into the project, so everyone managed to get the workload done relatively early and the assignment came together without rushing anything in the last minute. We scheduled semi-regular group meetings with well met attendance where we could keep up to date with where everyone was. We communicated on discord and used it as a means of communicating and clarifying any issues a member may have had. People were proactive with their assigned roles and happy to do them, this allowed for the content to be finished earlier rather than later.

Communication was inconsistent, the discord room was often left with unanswered queries and mentions weren't addressed for days at a time at some points. Not much effort was made when posting availabilities as we never had a meeting with full attendance. When discord was the agreed upon medium for communication it did take a while for everyone to join. This in turn ended up changing the sections people would end up doing as it was assumed early on some people weren't going to attend. Formatting of sections were done without issuing any specific guidelines so when the assignment was compiled, there was some inconsistencies with the overall presentation.

Due to the nature of an online course, not having actual classes to meet in made organising discussions a lot harder than we assumed it would be. Having many in the group coming from different work backgrounds and online courses helped with bringing different skillsets to the project and being able to assign tasks based on individuals' strengths.

Working in a group served as a nice introduction as to what the real workplace would function like and how getting tasks done and assigning roles to achieve a bigger goal is realised. The ability to make decisions as a group was an important skill, we all needed to realise. Making decisions for the betterment of the group as opposed to individual interests allowed for a smooth project. When we were deciding what project to use, we took everyone's opinions and weighed what we thought would be best. The decision mainly involved going with a project we could all understand well enough so that we could all work on the concept going into the future. The group generally agreed there were some organisational requirements that could be worked on moving forward in the project.

5.1: Individual Group Reflection

5.1.1: Md Ajmul

A13 is a versatile team as we have six members from different discipline and background and worked together to do the assessment 2. After forming the team, we have started our discussion on Discord but also, we have used another platform to share the documents. In every week we joined in a virtual meeting through Discord and shared our opinion, idea and took decision-based on the discussion. I found every member proactive and willing to offer the best effort. We have shared the workload within team member and every member was responsible for one of the parts of the assessment. Each member had a significant contribution to complete assessment 2. In the beginning, it seemed to be challenging to work together because few of us is from non-IT background including me and career goal also different but we have overcome that issue as A13 Technology is an organisation and we need team member from different skillset so all activity can be performed smoothly.

I really enjoyed the teamwork and liked seeing how all the section of assessment done by each member and came together in the end and job done. Working in a group is something always greatly appeals to me because I typically end up learning a lot from others.

5.1.2: Hayley

Having personally not really worked in a group with people I do not know before I believe that we worked together well. At the first meeting, the work was assigned and agreed upon – changes were however made which decreased the amount of work I was required to do, so I felt that I was given quite a small contribution to the assignment. It was appreciated that everyone was willing to contribute as much as they could and have their work ready on time and everyone was open to feedback and criticism.

It was also appreciated that everyone seemed very committed to the assignment and to producing the best work possible to achieve the best desired outcome for the group and to achieve the best results together for the assignment.

I was surprised that everyone was very open and communicative and it was seemingly easy to discuss the assignment and delegate tasks within a group, as I would have thought being an online only subject that this would have been more difficult.

As I normally prefer to work on my own, this was a new experience for me and I have learnt a lot about how I should work in a group, and moving forward will attempt to further my participation in the group and push outside of my comfort zone to communicate more.

5.1.3: Joseph

I believe people's participation in this assignment was very good. Nobody in the group needed chasing up when it came to people doing their section. Organizing meetings went very smoothly and the attendance turned out pretty well each time. We could, however, improve in our communication a little, to be more time effective in discussions. Our discussions usually take a fair amount of time to progress from point to point. If we all continue working together, I believe this communication barrier will eventually break down, and our team will perform more effectively and precisely.

It did surprise me how well everyone worked together in getting this assignment done though. For a group of students that didn't know anything about each other 4 weeks prior to the completion of this assignment, I think we have done rather well to all contribute and work together as well as we have to achieve our outcome. The participation of everyone certainly did exceed my expectation. During this progression of this assignment, I have realized that one of the most important aspects to a successful group project is early delegation of the tasks involved. With everyone knowing exactly what they need to do as early as possible, it allows for the project being completed by the due date and avoids unnecessary stress. If people know what they need to do and have the most amount of time possible to complete it, they can relax little more and produce better quality work.

5.1.4: Nadir

Overall Nadir really enjoyed the experience of working in the group, he was happy the assignment was done earlier rather than later and thought overall the group involvement and readiness to adopt roles was refreshing. He thought the meetings were organised and well-structured and was happy with the overall levels of communication.

He felt that it took a few weeks too long in some cases for members to join the communication channel that was decided. This in turn made it so that there were heavy delays in assigning roles and a few roles were changed during the project since people hadn't attended at that point.

Nadir was very happy especially with Joe and his contributions to the group, always ready to work and took on as much as he could to ensure it would be done in a timely manner. AJ and Luke were both also very diligent with their work and were very communicative, they attend every meeting and finished their tasks in a timely order. Sanjana's assignment 1 was very well written and due to the nature of her project idea's simplicity and real-world practicality we went ahead to use it. She contributed her sections of the assignment on time and they were well written with little to no editing required. Hayley also contributed very topical work and it was all done with diligence and grace, her work was much appreciated.

5.1.5: Luke

Early on we organized what everyone should be doing and assigned everyone a task which was a very good thing, this allowed us to start work immediately. Progress was reported quite often so we knew how the overall assignment was going. Some people were very unavailable to discuss parts of the project for days at a time so queries would sit in the discord channel for days unanswered. Organizing meetings was also a struggle, not everyone would post their availability, so it was inconsistent on who was there.

The biggest surprise was the fact there were people from non-IT backgrounds, I did not expect anyone from finance or logistics backgrounds.

From this assignment, I have learned how difficult it is to organize a group of people, especially over the internet, to get tasks done in a timely manner. Providing feedback in a gentle manner to avoid insulting anyone and causing any pointless arguments could be hard at times.

The log on Github does not reflect any of our contributions as we generally stuck to MS Word and Google Drive, then sent it to one person to compile at the end.

5.1.6: Sanjana

I feel our group went well in delegating tasks to each group member. We were able to efficiently decide on who does what in the assignment and discuss on the tasks that are remaining. Everyone completed their set tasks on time, and we were able to tick off the requirements of the tasks throughout the assignment. One thing that could have been improved was we needed more communication. Group participation was good however as this is all done online and not in a classroom setting, it was a bit difficult to find time to all come online as a group to discuss the assignment. I believe more frequent meetings would have been beneficial to the assignment, but this was difficult as everyone had their own real-life commitments.

Our group's channel of communication was discord. I however joined somewhat late as I did not read announcements posted by other team members. I have learned from this and know from next group projects; it is important to check all announcements and notifications on the RMIT Canvas early on so that I don't miss out on anything. One thing that was surprising to me was how motivated and invested in the assignment everyone was. I like how everyone took the assignment seriously and strived to make it as best as possible. One thing I learned from the group was the benefit of ideas from other people. When you are struggling on a task, getting some advice or ideas from your team members improves the quality of the work. I learned that it's important to communicate with your team on the status of your project as well as asking for feedback on how you can improve tasks that were assigned to you.

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7.0: Appendix

7.1: Meeting Minutes

7.1.1: Meeting 1: Tuesday Week 5

Communication medium – Discord Voice Chat

Meeting started Tuesday 25th June 2019 at 6:30 pm

Attendance: Nadir Luke AJ Joe

- 6:30 – Meetings and personal introductions
- 6:35 – Discussion of the assignment and general clarifications
- 6:42 – Delegation of tasks
- 6:50 – Call to action – when we want to have actual content finished so that there's no rush at the due date
- 7:04 – Meeting finished asked of everyone to post availabilities for another meet

Tasks were assigned as follows:

Team profile – Joe

Industry Data – Luke

IT work – Originally Hayley – Nadir did it as found a very convenient interviewee (completed before Hayley started so no time was wasted)

IT technologies – AJ 2 sections (Clouds and blockchain technology), Nadir 1 Section (undecided), Hayley 1 section (undecided)

Project Ideas – Luke (will be more of a group effort)

Feedback – Individual

Reflection – Group

Availabilities will be considered as was discussed and hopefully another meeting taking place during Saturday Week 5.

7.1.2: Meeting 2: Friday Week 5

Communication medium – Discord Voice Chat

Meeting started Friday 28th June 2019 at 6:30 pm.

Attendance: Nadir Luke AJ Joe Hayley

- 6:30 – Nondescript chat and quick reintroductions
- 6:40 – compiling information that Luke and Joe need from Hayley
- 6:50 – Discussing project ideas - no real verdict is met
- 6:55 – Discussing how progress is going, some members haven't started their parts due to other assignments/real life commitments
- 7:00 – Meeting finished, no real comment on when's the next meet

Joe, Luke and Nadir are well underway on their parts, AJ had an assignment, but assures the group progress will start early next week on his section, Hayley the same.

Joe and Luke asking a lot of questions and making sure their parts follow the expectations of the project.

AJ has suggested we go with his project idea, group seemed apprehensive considering his project idea is quite complicated and would be hard for a combined effort to be made.

- During the week Sanjana joined the discord, posted her website and was given a section from IT technologies
- Started working on her section and finished a draft during the week

A meeting was scheduled for Monday week 7 in chat, no confirmation from Sanjana though.

7.1.3: Meeting 3: Monday Week 7

Communication medium – Discord Voice Chat

Meeting started Monday 8th July 2019 at 7:00 pm.

Attendance: Nadir Luke AJ Joe Hayley

- 7:10 – Meeting starts and discussions regarding assignment begin
- 7:10 – First thing was looking at what sections need to be finished/clarifying assignment questions
- 7:20 – Talking about feedback/group reflection and when it needs to be done
- 7:30 – Decided to post finished work and have everyone glance over and edit so that it's fully legible
- 7:40 – Finalising project idea, was between AJ's and Sanjana, decided Sanjana due to simplicity and practicality of the idea
- 7:47 – When discussing with Joe a few website queries Nadir realised his website stopped working, e-mailed GitHub support and Anthony the course lecturer
- 7:55 – Talked about next meeting and when we need to be submitting our parts, so the assignment is good to go
- 8:00 – Meeting organised for Thursday 6:30 most likely, barring any drastic developments in the group chat
- 8:10 – Asking if anyone was confused on what needed to be done, as well as the feedback we all individually need to leave on the website regarding the group

Sanjana didn't attend this meeting. Decided to use her project idea anyway as it had a very suitable real-world application.

She has been asked in the chat to finish the section on project ideas after the meeting, largely because it was her idea, and the section basically is just the information on her website already with the addition of a few hundred extra words.

Meeting will likely be Thursday and the assignment should be almost completed by then, so we have a few extra days for a final proofread and submission, leaving ourselves enough time if there's a problem to solve it.

7.1.4: Meeting 4: Thursday Week 7

Communication medium – Discord Voice Chat

Meeting started Thursday 11th July 2019 at 7:15 pm.

Attendance: Nadir Luke AJ Joe Sanjana

- 7:15 – Meeting begins, verbal feedback on work given
- 7:20 – Group input for the group reflection section of assignment scribed by Nadir
- 7:40 – Discussions on compilation of final product which Joe agreed to put together the project
- 7:50 – Assignment cover sheet downloaded and filled out
- 8:00 – Discussion on personal feedback and organisation of everyone's final product to be put forward towards Joe
- 8:10 – Questions and issues anyone had cleared out
- 8:15 – Concluding thoughts and summary of everyone's tasks

Hayley didn't attend this meeting, but her assignment contribution was promptly put forward in the discussion board.

Joe agreed to put forward the PDF document of the final assignment with a link to the website included. The team made it a point that all our contributions would be sent to Luke no later than the 12th of July.

No agreed upon meeting date, and potentially won't be any if it isn't deemed necessary but the group overall has become more reliable with leaving availabilities and scheduling meeting times.

When the final PDF is uploaded to our discussion forum, everyone has a duty to look over and edit.