IIT-A2: Team #101: *Last Minute Glory*

1. Personal Information

Isaac Ambrosio

Isaac Ambrosio is 24 years old. His student number is s3756394, and RMIT email address is s3756394@student.rmit.edu.au. Isaac's online profile is found here: https://zac-attack.github.io/Assinment1/. Isaac is Peruvian by birth and speaks fluent Spanish. Isaac plays a lot of online games and do a lot of physical activities such as soccer and hitting the gym every now and then. An interesting fact would be a time when I got concussed while I was in a soccer match, it was a rainy day and I went headfirst against the post. I felt how my soul left my body and came back, it was scary.

Nicholas Mpantellis

Nicholas Mpantellis is 22 years old. His student number is s3863803 and student email address is S3863803@student.rmit.edu.au. Nicholas' online profile is found here: https://nickmpan.github.io/Assignment_1/. Nicholas works full time in sales and is currently studying as well. Although I consider myself Australian and have lived in Melbourne my whole life my background is Greek and Seychellois. I am currently attempting to learn mandarin as I have heard it is a great way to improve memory and sharpen the mind, not to mention it would definitely be a skill that would make me more employable and allow me to travel a bit in the future for my ideal job. I am a huge American Football fan and I follow the "Las Vegas Raiders" in the NFL and the "Ohio State Buckeyes" in College Football. Although I haven't quite had the opportunity to go to USA and watch a game it is a high priority on my bucket list.

Luke Byrnes

Luke Byrnes is 31 years old. His student number is s3866987, and RMIT email address is s3866987@student.rmit.edu.au. Luke's Assignment 1 GitHub profile can be found at https://ekulbyrnes.github.io. Luke grew up in Sydney and had the privilege of spending 2 years attending High School in California. Upon returning to Australia, Luke and his family moved to Melbourne where he finished High School and attempted 2 different degrees before deciding that paid work was more for him at that stage. Luke has a keen and enthusiastic interest in computing technology and has always had a penchant for exploring how computer systems work. With the help of qualified and smarter friends, Luke learnt how to use the Linux command line and how to independently create and run websites – an achievement that doesn't sound like much but was over 10 years in the making! Luke is an enthusiastic Amateur Radio operator and an active Scout Leader. When he's not participating as a Leader of Youth in Scouting, or planning an exciting STEM activity for the kids, he can be found tinkering with electronics, exploring the great outdoors on a long drive, catching up with mates over a cuppa, or hanging out with family and friends.

Joshua Jesudhason

Nisha Natarajan

James Reynolds

2. Team Profile

Isaac Ambrosio

Myers-Briggs Type indicator

I have got a protagonist personality or ENFJ as a result of my test. “Everything you do right now ripples outward and affects everyone. Your posture can shine your heart or transmit anxiety. Your breath can radiate love or muddy the room in depression. Your glance can awaken joy. Your words can inspire freedom. Your every act can open hearts and minds.”

Some of the strengths are:

- Tolerant
- Reliable
- Altruistic
- Natural leaders

Here's some of the weaknesses:

- Overly idealistic
- Too Selfless
- Too Sensitive
- Fluctuating Self-Esteem
- Struggle to Make Tough Decisions

Learning Style test

I have obtained a visual/Tactile learner result from the test which means that understand and remember things by sight which can be useful for my team for certain tasks. Also being a tactile learner means that it’s easier for me to learn by doing and by being there in the moment. If there’s one thing that I can completely agree with the result is that I need to be frequently active making it hard to sit still which gives my team an opportunity to use that energy and convert it into actions.

Big Five Personality test

Having a high score on extroversion makes it easier for me to be more outgoing and social allowing me to engage more with my teammates. Despite having a high score on Neuroticism, I find myself being positive person and full of energy boing the one that get everyone together and making it comfortable for them to approach me which is tied to my 3rd factor which makes me someone friendly and optimistic. I got a low score on conscientiousness which makes me someone impulsive and disorganized. I got a high score on imagination which also makes me flexible open to new experiences and ideas.

Nicholas Mpantellis

Myers-Briggs Type Indicator

According to my Myers-Briggs Type Indicator Test I am the ENTP personality type also known as the debater. This means that I have the Extraverted, Intuitive, thinking and perceiving personality traits. People who have the ENTP Personality type generally tend to be great conversationalists and love to engage with people in debates.

Strengths of ENTP's:	Weaknesses of ENTP's:
- Social	- Overly Argumentative
- Reserve Judgement	- Dislike routines and schedules
- Curious	- Does not like to be controlled
- Innovative	- Unfocused

Learning Styles Test

In the learning styles test that I have completed I am 55% an auditory learner which has a clear majority over tactile and visual learning. This is all quite accurate to me as I do have a hard time learning and committing things to memory when looking at diagrams and trying to do things myself. I find I have a much easier time of learning things when I am having it explained to me. I will often read something repeatedly and I need to read it aloud to myself to properly understand it. Understanding this, I am trying to participate in discussions more within class and groups.

Big Five Personality Test

For the third test that I completed, I did a Big Five Personality Test. In this test I had a bit of variance, I have a traditional and conservative way of thinking while at the same time being quite creative and imaginative. I am also very spontaneous and disorganised with plans and hate to have a set schedule.

Luke Byrnes

Myers-Briggs Type indicator - The Mediator

As the profile fits, Luke is considerate of the best possible outcomes from a given situation, not just for the task at hand but for the people involved. Inspired and eager, Luke enjoys working in an energetic environment where each participant is included and involved in making something together from the sum of their capabilities. Luke is best paired with team members who have the ability to balance the imagery and idealistic concepts that Luke can be enthusiastic about and can use support of others who are more tactical, detailed, or methodical in their deliberations to achieve results.

Auditory-Visual Learner

Luke relies on what he sees and what he hears to comprehend information. As both Audible and Visual cues are instructive, a combination of both allows him to best digest and consider information presented to him, usually in tandem. While he is less likely to engage in kinetic learning styles, he's more than happy to engage with them and use them to share concepts and ideas in this method.

DISC profile – Dominant

While the description of a Dominant personality under the DISC discipline, Luke's interactions are delivered in a leadership capacity focused on the success task at hand. Luke has learnt to take a step back when passionate and enthusiastic about a situation, and let the natural flow of collegiate decision making assist the group to achieve its desired results. Luke looks for teams that are filled with energy, are passionate, and enthusiastic about the potential for solutions.

3. Ideal Jobs

Isaac Ambrosio

I have been working as a Business Analyst Support for a while but what I really enjoyed the most of that role was the programming part and understanding the needs of the subject matter experts in order to create a better process for them to become more efficient and accurate. One of the things that a software developer does is analyse the users' needs and then design, test and develop a software to meet those needs. If anyone wants to become a software developer, they would need at least a bachelor's degree in computer science, software engineering or a related field. Here's some important qualities that a software developer must have:

- Analytical skills
- Communication skills
- Creativity
- Detail oriented
- Interpersonal skills
- Problem-solving skills

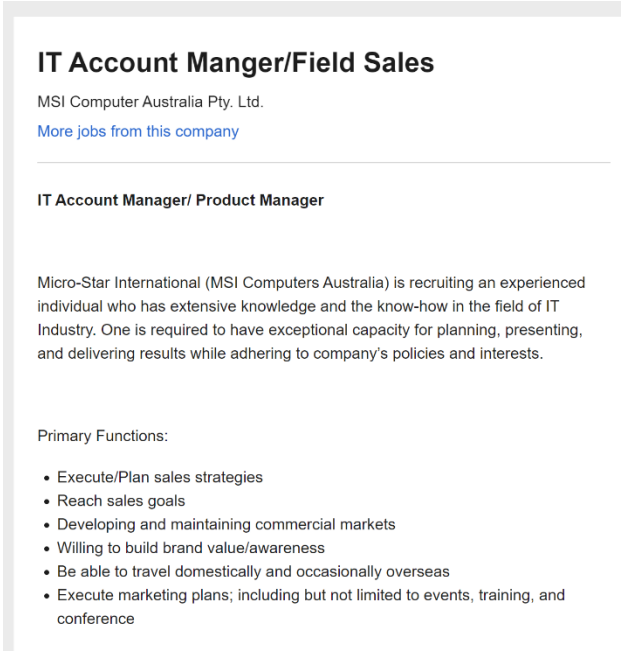
As a software developer I am going to be required to write and test code and I found Eclipse is a great software which has helped me learn and run some basic code. As a developer I am also going to need to work with other developers so learning Git is also one of my goals as this software will allow me collaborate and work with other programmers and most importantly track the changes made to the code. As most of us know there are always bugs when there's a new software released and I have read that Jira is a pretty handy tool for bug tracking and issue tracking so that one is on my list as well. As I have already learned the basics of Java I also want to get started with Jenkins which is the bridge that will help me deliver the software from the development stage to the production stage.

Nicholas Mpantellis:

Being in sales and having worked in customer service most of my working life, the thing I have enjoyed the most about the jobs that I have had has been working in an environment that allows me to socialise and interact with other people. I have always found it easy conversing with people and sales has been the one job so far that I have been able to do that and excel in. My ideal job allows me to use my social skills to build customer relationships in the IT industry.

Some required skills to be successful in this job would be:

- Communication skills to allow me to build relationships
- Extensive knowledge in IT
- Understanding in consumer needs
- Being able to translate technical information into consumer-friendly language.



IT Account Manger/Field Sales

MSI Computer Australia Pty. Ltd.

More jobs from this company

IT Account Manager/ Product Manager

Micro-Star International (MSI Computers Australia) is recruiting an experienced individual who has extensive knowledge and the know-how in the field of IT Industry. One is required to have exceptional capacity for planning, presenting, and delivering results while adhering to company's policies and interests.

Primary Functions:

- Execute/Plan sales strategies
- Reach sales goals
- Developing and maintaining commercial markets
- Willing to build brand value/awareness
- Be able to travel domestically and occasionally overseas
- Execute marketing plans; including but not limited to events, training, and conference

Luke Byrnes

A **Solutions Architect** is responsible for co-ordinating the design, layout, resources, tools, and infrastructure required by an organisation to meet its business needs. They work as a facilitator of business functions by scoping and developing technical solutions for the business.

They must consider the challenge of balancing current infrastructure dependencies that the business relies on and ensure backwards compatibility and growth opportunities are present when compiling solutions for the future.

Luke's appeal for the role is the challenge of managing stakeholders across different parts of the business to provide the right solution to challenging problems. A Solutions Architect should be able to work with all types of people, and

be open to new ideas, new ways of thinking from diverse business areas to get the best results for a truly dynamic system.

A Solutions Architect requires a tertiary degree in a relevant discipline, such as:

- Information Technology
- Computer Science
- Software Engineering

Note that post-graduate qualifications and specialized certification may also be required.

Solutions Architects are required to have significant experience in a system engineering environment, thorough knowledge of business solutions and resources and tools available to be used in solutions, and a working knowledge of how they are required to operate with other systems.

They must also be familiar with relevant technological protocols (such as https for web development) and specialist languages (such as PHP, Node.js, etc) to ensure they understand the interactive relationships between the business needs and its technological solutions.

4. Tools

Team #101: Last Minute Glory's website is hosted on GitHub pages, as linked here: https://lastminuteglory.github.io/. The repository for the site is located on GitHub under the GitHub pages repository https://github.com/lastminuteglory. It contains website artefacts, assessment support documentation (including our Interview with Mathew McKernan), and this document – our report.

The GitHub audit trail for Team #101: *Last Minute Glory* does not accurately represent contributions to the Team site, as the site was drafted and developed by a single team member who had the relevant skills to quickly and efficiently develop a site that met the needs of the team. The content for the site was generated by all active members and rendered by the appropriately skilled team member. This was measured against this member's contribution to the rest of the assignment, giving other members weighted tasks towards non-technical specific deliverables, ensuring everyone has an equal workload and that the right people with the right skills were allocated according to make the best use of the team resources in the time available. This resulted in a combined group effort to create the site, even though the contribution data is represented and weighted on a single member's attribution.

Team #101 made extensive use of Microsoft Teams to collaborate and co-ordinate an action plan to construct this report between our members. This platform allowed for contextual conversations between topics, members, files, and links, speeding up the development process and maintaining relevancy in planning.

5. Industry Data

The titles of our ideal jobs are:

- Software Developer (Isaac)
- Solutions Architect (Luke)
- IT Account Manager (Nick)

Based on Burning Glass data, we have the Solutions Architect being on top of the list making this role the most demanded from an employer perspective. In the number 19 we got the Software Developer role which is a trending job based on how technology keeps evolving these days. Despite not being on the list an IT Account Manager is an essential role as they are the ones that walk the line between the business goals and the client needs.

Name	Job	Rank
Isaac	Software Developer	19
Luke	Solutions Architect	1
Nicholas	IT Account Manager	-

After checking and reading into all of our ideal jobs we have pull the most important skill set that will be required to have an optimal performance in each of our roles and we have divided them into General skills and IT-Specific skills:

General skills

Software Developer

- Communication Skills
- Problem Solving
- Team Work/ Collaboration
- Detail-Orientated
- Creativity
- Analytical Skills

Solutions Architect

- Communication Skills
- Problem Solving
- Teamwork/ Collaboration
- Troubleshooting
- Creativity
- Leadership
- Decision Making
- Needs Assessment
- Meeting Planning/Facilitation

IT Account Manager

- Communication Skills
- Planning
- Presentation Skills
- Building Effective Relationships
- Articulate
- Listening
- Strategic Planning
- Needs Assessment
- Needs Assessment
- Training

IT-Specific skills

Software Developer

- JAVA
- Microsoft Windows
- Git
- Software Development
- Atlassian JIRA
- Debugging
- Validation
- Application Development

Solutions Architect

- JavaScript
- Microsoft Windows
- Project Management
- Systems Engineering
- Cisco
- Hypertext Pre-processor (PHP)
- System Administration
- Solution Architecture
- Web Development

IT Account Manager

- Microsoft Windows
- Building Relationships
- Product Sales
- Business Communications
- Negotiation Skills
- Product Marketing
- Brand Design
- Brand Management

When reviewing data provided by Burning Glass our IT-Specific skills are ranked as follows:

Software Developer	
Skills	Rank
JAVA	3
Microsoft Windows	4
Git	21
Software Development	41
Atlassian JIRA	45
Debugging	110
Validation	128
Application Development	174

Solutions Architect	
Skills	Rank
JavaScript	2
Microsoft Windows	4
Project Management	5
Systems Engineering	24
Cisco	26
Hypertext Preprocessor (PHP)	34
System Administration	51
Solution Architecture	79
Web Development	137

IT Account Manager	
Skills	Rank
Microsoft Windows	4
Building Relationships	8
Product Sales	35
Business Communications	73
Negotiation Skills	76
Product Marketing	131
Brand Design	191
Brand Management	196

Our General Skills are positioned with employers as demonstrated below:

Software Developer	
Skills	Rank
Communication Skills	1
Problem Solving	2
Team Work/ Collaboration	5
Detail-Orientated	8
Creativity	9
Analytical Skills	17

Solutions Architect	
Skills	Rank
Communication Skills	1
Problem Solving	2
Team Work/ Collaboration	5
Troubleshooting	6
Creativity	9
Leadership	11
Decision Making	25
Needs Assessment	53
Meeting Planning/Facilitation	58

IT Account Manager	
Skills	Rank
Communication Skills	1
Planning	7
Presentation Skills	15
Building Effective Relationships	22
Articulate	23
Listening	37
Strategic Planning	38
Needs Assessment	53
Needs Assessment	53
Training	60

The 3 highest IT-Specific skills that are not in our required skillset are shown below:

Solutions Architect	
Skills	Rank
Communication Skills	1
Problem Solving	2
Team Work/ Collaboration	5
Troubleshooting	6
Creativity	9
Leadership	11
Decision Making	25
Needs Assessment	53
Meeting Planning/Facilitation	58

Solutions Architect	
Skills	Rank
SQL	1
JAVA	3
SAP	5

IT Account Manager	
Skills	Rank
SQL	1
JavaScript	2
JAVA	3

These are the top three general skills that are not listed to perform our ideal job:

IT Account Manager	
Skills	Rank
SQL	1
JavaScript	2
JAVA	3

IT Account Manager	
Skills	Rank
SQL	1
JavaScript	2
JAVA	3

IT Account Manager	
Skills	Rank
Problem Solving	2
Organisational Skills	3
Writing	4

By reviewing what was demanded from an employer's perspective and also an average of our general and IT-specific skills, it appears that we can adapt and evolve based on how the needs change in the future. It is important to note that this was data collected from the 24th of December of 2017 to the 23rd of March of 2018 and a lot has changed in a couple of years that has put our roles in a good position.

6. IT Work

On Wednesday 15 July, we interviewed Mathew McKernan, Professional Services Manager for Rauland Australia, a medical and critical communications company. The interview was very informative on the day to day realities of a fast-paced IT professional, one who has been a frontline Product Engineer and now oversees the company operations and works to deliver products for mission-critical clients who operate in a life-or-death environment. Matty shared some great insights as to what potential can be reached in the industry and provided detailed answers to our queries.

A summary of each response is provided below, but the full interview can be heard on our team repository: https://github.com/LastMinuteGlory/lastminuteglory.github.io/raw/c2c16116d3b351c83b3e441b0e3e4039163a6fd1/interviewMMcKernan2020071501.m4a?raw=true.

A transcript is also available on our page via this link: https://lastminuteglory.github.io/#Interview.

In a brief summary, Mathew shared that he has transitioned a lot from being operational into a role with a more managerial perspective. He looks after the service delivery to customers under the IT Service Management. Their company services about 300 hospitals around Australia and supply them emergency response systems. To understand what their company does this is what Matthew said in the interview “if you hit an emergency button in a hospital or a nurse call system button, and you're looking for your nurse to come and attend, or there are a patient entertainment system terminal and things in your facility, it's a high likelihood that it's one of our systems”. These days, due to the whole COVID-19 situation has made his day busier as hospitals are being refitted out and they are working to get that possible. When it comes to his responsibilities, one of them is the delivery of ongoing Services in the ICT space. As part of his role he also leads a team of IT integrators which are the people that get tow systems to talk to each other (existing hospital systems and their system). His role is a mixture between managing people, managing customer expectations and providing his technical expertise. He completed his Bachelor’s of Computer Science from RMIT in 2009.

He normally interacts with different type of people within the business from software engineers, Product Management, team leaders to operations managers who are responsible for the client relationship. In terms of customer side, he normally deals with Chief Executives, Chief Health Offices and Chief info Officers. Matthew operates at an executive level making him able to bring a level of a professional business-like approach. He doesn’t always deal with the general public but they will when they work in a patient’s room. They are a privately owned company, so they do not deal with investors. Matty normally spends a lot of time behind his desk at work and also in the lab testing gear and troubleshooting with his colleagues. He also spends time providing technical leadership too, which allows him to problem-solve issues for and with his colleagues. He states that he is fortunate to spend at least 1 to 2 weeks each month interstate doing customer visits and site visits.

One of the challenges that he normally faces is context switching. He can have a plan for a day and then throw it in the bin due to priority. The requirement on him and his role are that he can't be stuck on one particular task for 10 hours due to the constant switching of context. Another aspect that he finds challenging is to work with multiple things at once depending on priority. He also noticed that it was a bit challenging to recognize and read an audience. Understand the right to say to the right people at the right time and how to conduct himself. Matty shared his enjoyment for the role is found in the variety of situations he faces on a daily basis.

7. IT Technologies

Autonomous Vehicles

What does it do?

Autonomous Vehicles are bound to be the next big technological advancement, and many are rushing to be the first company to perfect this technology. They have the ability to save millions of lives if they are perfected and will allow people to save a great amount of time yearly. Autonomous Vehicles are inevitable, and all the hardware is already available to make it a reality.

One of the main components required for developing fully automated vehicles are cameras to recognise lanes, speed signs and traffic lights. They also require a component that can be used to detect obstacles and other cars. This component comes in different shapes such as high tech sensors, used to notice obstacles and avoid them and lidar which uses light to determine distance from objects allowing the car to slow down and stop when it comes to a certain distance from objects.

Some components are already well underway such as radars, however the hardest technology to implement is the machine learning aspect of the vehicles. Machine learning is definitely one of the more difficult forms of tech to implement when designing the vehicles. Machine learning is doable and is absolutely required to properly design the software of automated cars as not every scenario can be programmed into the software but teaching a car to learn from its experiences is not an easy task.

At this point "driver-less cars" have been designed by companies such as Google and Tesla. The technology has been implemented in a way that allows cars to stay in their lanes, stop when the car in front of them has stopped and avoid objects however the technology is not yet at a level where you are able to simply select a destination and put your feet up for the ride. currently many companies are working on the software and Artificial Intelligence required to allow cars to correctly navigate our roads and cars in a safe manner. The three main companies involved in making this idea a reality are Waymo, GM Cruise and Argo AI. The Australian Government has already come up with reforms to allow regulation of automated vehicles and the hardware is already created, once the software has been perfected the movement will be well upon us.

One of the main things slowing the development of automated vehicles is extreme weather conditions such as heavy snow blocking lane lines and rain and fog from blocking the view of the cameras. Radar can see through these weather problems however radar does not have the ability to see the full outline of an obstruction to understand what it is. Another issue that presents itself when making driver-less cars a worldwide norm is different pavement and road lines in each country that would need to be programmed for the car to understand no matter what city it is in. One of the biggest problems that these vehicles will encounter at the beginning is the ever spontaneous nature of human drivers. These driver-less cars will have to learn how to deal in instances like when someone has parked their car slightly blocking the road, the car will need to know when it is safe to creep around the obstruction.

What is the likely impact on society?

Automated cars will have a huge impact on society as a whole. It is expected that once this technology is normalised it will dramatically reduce the amount of deaths and injuries on the road around the world by millions and will give people more time for other tasks. Once perfected automated vehicles have the potential to be used in a military aspect that can further decrease the loss of life. There will be a large change in the overall conduct on the road. Less people driving on the road aggressively will result in less road rage and accidents. Society that has a majority of driver-less vehicles will be able to arrive at their destination on time due to less traffic and will create more streamlined roads. It will allow for lower maintenance costs for cars due to less wear and tear on vehicles and will reduce energy consumption from transport.

A huge impact it will have on society however, is an increase of IT jobs as more car manufacturers will look into bringing in IT professionals who can maintain AI systems. As much as there will be jobs created in the IT industry, there will also be a large amount of jobs lost in the transport industry.

How will it affect you?

In my day to day life, this sort of technology will allow me to achieve much more with my day. Not having to wait as long in traffic before and after work and the added bonus of being able to do things and complete work tasks while in the car is very helpful. Currently in my job I do a lot of travelling to peoples houses for quoting purposes and there is a lot of paperwork involved. Being able to complete most of this paperwork in the car between these jobs would come quite in handy.

Automated cars could greatly help in transporting younger kids who do not have their license and would help for people who have had injuries that prevent them from being able to drive themselves around. Being able to still get from one place to the next could allow people to carry on with their lives unhindered by any sorts of disabilities or injuries. People who this could be of great help to are the elderly. Its no secret that as you get older your reaction times aren't as quick and it is due to this that a lot of elderly people are unable to drive themselves to and from appointments, grocery stores and the pharmacy to get any sort of prescribed medication. This results in many more elderly people having to walk and take the bus to get to places. With the introduction of autonomous vehicles it allows elderly people to still be able to go on about their day with less hindrance.

Blockchain and Cryptocurrency

What does it do?

A cryptocurrency is a virtual currency that is securely encrypted making counterfeiting almost impossible. Cryptocurrencies function using individual blockchain technology which is essentially a data structure that is used to store digital information in records. These records of the crypto-currencies transactions are called blocks. Transaction information that is stored includes transaction date, time and dollar value, information on who is participating in the trade that is recorded using a digital signature and certain codes that allow us to distinguish a block from any other block.

When enough transactions occur and they all get verified with public records they are stored in blocks and are added to the blockchain to be publicly available for anyone to view. A blockchain is incredibly secure as it is stored linearly so if one block of code gets hacked and changed it will invalidate any blocks that come after it. This security is guaranteed using cryptography algorithms to prevent any of the data being hacked. However not being able to alter the data of the blocks means that you can't reverse the theft of any cryptocurrency funds. Being stored in thousands of devices and across a network of nodes, blockchain systems and data are greatly resistant to technical failures and malicious attacks. Blockchain is very stable however due to nodes having many jobs, blockchains are slow. Therefore, Blockchains are a good way to securely store data however do still plenty of cons to them like any other form of technology.

Cryptocurrencies are currently able to be traded through different platforms which allow them to be traded for other cryptocurrencies or money. They can also be used to purchase certain goods or services over the internet. Many people see cryptocurrency as a means to make money through cryptocurrency trading. The idea of it is due to the volatile nature of crytocurrencies traders will often speculate on what the movement in price is going to be and try to buy it before it rises, the same way you would shares in a company. Other forms of cryptocurrency that you may not even be aware you are using are points based customer loyalty programs in which a company will give out points based on the amount of money you spend with them. It is a very popular reward program but is in fact a form of virtual currency.

All of the technology is currently available for blockchains and cryptocurrencies however they can all be improved on and the better the technology behind it the faster the blockchain will operate. Although cryptocurrencies are more secure they are not readily available to use for day to day purchases in many stores. In the future however, we could see an increase in use of cryptocurrency over the counter. However, it is currently not recognised or accepted as a form of payment by most stores. We will most likely see an increase in blockchain being used to encryt data throughout a large variety of different industries. This is because it is incredibly secure allows for transparency in transaction histories and improved traceability. It is also being improved on and can have increased speeds over time and at a reduced cost.

What is the likely impact?

Blockchain is currently used quite vastly throughout different industries and over time we will see more businesses steer towards it as a much more cost effective method of storing data and transactions. Currently we are very much in the early stages of blockchain with a simple premise however can be quite difficult to understand in proper depth. Blockchain reduces the amount of ledgers required to a single one, meaning faster transfer times as transactions do not need to be verified by as many ledgers, however you can always trace records back through the blocks. Through blockchain quick and secure transactions take place from across the globe because the blocks can't be tampered with and the transaction occurs directly from a to b. It allows us to have more trust in the security of our transactions without the need for third party brokers.

A larger use of cryptocurrencies over time will allow us to send larger amounts of money for a fraction of the costs in much faster speeds. However, it does also have the power to push us much closer to a cashless society than we already currently are. Blockchain will have increased use as a way to secure files while keeping costs low which means third party brokers and notaries are not required as much. It's capabilities mean that over time it will start replacing current technology in many businesses such as banks.

How will this affect you?

Blockchain could alter my daily life greatly. It can be incorporated in company or product reviews allowing for transparency in that and making sure negative reviews are not being deleted by the company. Implementation in regards to medical information allows patients to know that their information is secure while still having an extensive history available. It has the ability to change how all businesses create and store their information securely. Advancements in cryptocurrencies will greatly change day to day lives in the way that it will allow me to buy and sell thinks online using cryptocurrencies in a way that reduces overall costs and allows for larger transaction sums. Unfortunately purchasing through cryptocurrencies would most likely be a bit of a complex process for elderly people and would result in some difficulties when trying to be used by people of the older generations which isn't a deal breaker however if it does push us into being a cashless society it can cause additional problems for people of that demographic.

Digitized contracts or smart contracts can be used in daily life and are legally binding. It involves two parties agreeing to terms for a project in the contract with certain requirements to be met. When this criteria is achieved an automated payment will be transferred and due to it being completely digital it leaves no room for interpretation at all. Once again Blockchain does have quite a specific demographic that it targets and is not overly helpful for people who are over a certain age.

Clouds, services and servers

What does it do?

Cloud technology involves offsite datacentres that are run by individual companies that allow you to store all of your information whenever it is needed over the internet. Cloud servers are accessed through web browsers or dedicated apps that are designed to allow you to customise your usage to suit your needs. Cloud computing is very stable, having many linked datacentres in different countries and regions around the world. Data on the cloud is easily accessed no matter where you are and what it is you need to access. It allows you to access data and store information in these datacentres through the internet across a range of devices that are all linked to the same cloud servers.

Many companies currently use cloud services for a wide variety of reasons such as data backup and recovery, email, software development and testing and for customer facing web applications. Companies that apply this technology range from healthcare companies who are able to create personalised treatments for patients, financial services companies who use it to greater increase fraud prevention and protection, and video game companies which utilise it to create, maintain and improve on online games that are played all across the world. Public clouds such as google docs, iCloud, etc. involve companies essentially renting out space on their servers which allows you to leave the management of your data to the company of your choice. A private cloud however, will allow the user to customise and manage the servers and usage themselves to allow for a more personalised touch when it comes to core business apps, data and information.

Any information stored on these servers will be automatically backed up preventing any unwanted loss of data and allows for applications and files to be accessed on different devices and simultaneously worked on. Technology and hardware behind cloud computing is already available, however currently cloud computing is used as a way to support apps and allow for better functionality. It is believed that the next step to cloud computing will be the design of apps and programs that will allow cloud to be much more utilised in a day to day basis. Cloud computing will aid in the development and improvement of AI, machine learning and many other large-scale technological advancements.

There are different types of cloud computing and they have different uses. Allowing for platforms to be utilised over cloud allows for developers and programmers to use services like shared tools and API's to accelerate the development, testing and deployment of applications. For enterprises it can be made to ensure that developers are easily able to access resources and follow certain processes during their use of the cloud service. Although cloud technology allows for a wide range of possibilities and technological advancements, they would not be capable of any of them without the servers to store all of the information and data on. Due to datacentres being made up of a large number of servers which simultaneously work to allow for continuous access even in the event of server failure or congestion. Advancements in technology behind servers does increase what cloud services are capable of and the application of GPU servers which have more processing power and increased performance will allow for improvements in cloud technology, AI and machine learning as a whole.

What is the likely impact?

Advancements in Cloud technology means that not as much hardware is required by businesses. What is meant by this is that when a company plans on using certain applications and programs, they are able to be accessed through their cloud service provider using any computer they have through the internet requiring very little other hardware. This means that instead of large companies having internal datacentres made up of privately owned servers to store all of their data and programs on they are able to piggyback on another companies servers via the internet saving money in regards to hardware costs and having dedicated employees who are solely around to provide network maintenance.

Cloud services allow small start up companies added flexibility when setting up a network. Instead of being required to set up a designated datacentre large enough to grow into to manage your network, start-ups are able to utilise cloud servers for the purpose of starting up their business properly. Most cloud services are pay as you go which means you don't have wasted money on services and storage space that is not being used instead businesses pay for the services and the space that they use and only that. This is a great way for companies who are still getting a footing to reduce additional costs and allow for less wastage.

A lot of companies when setting up cloud services have the need to control how certain programs are run and operate manually. In this situation companies have the ability to set up a hybrid cloud network which involves utilising public cloud servers for day to day operations that can be maintained by the provider, while also having a dedicated private cloud server that allows them to monitor any information manually. Operating a business under the hybrid cloud network structure means businesses don’t have to trust that their applications and programs are being correctly applied but they can set them up themselves to best suit their company and what they are trying to achieve, allowing them to get the most out of their service.

How will this affect you?

Cloud technology has already affected me greatly. I use it consistently in my day to day life in the form of Apple's "iCloud". I use it to store any photos I take with the hopes that it will be more secure and in the event that I accidentally break or lose my phone I will not lose any data, information or photos of my dog. I also use Microsoft OneDrive quite a lot and it gives me peace of mind knowing I have all my files safe in the one place. Currently at work we have a room designated to our datacentre that has all of our servers and we have IT help desks to maintain the network and assist staff members when any problems do occur, I believe the decision will be made in the next couple of years to switch to cloud services as a means of storage and CRM.

What I expect to be advanced largely as a result of Cloud technology is AI and machine learning which in the future will be applied to daily life and will be encountered regularly. AI will be incorporated in businesses and in the home

and no matter where it is, it will be used to access programs and applications that are stored on our designated cloud server.

Robots

What does it do?

The definition of a robot is slightly blurred. Many people think of a robot as a tin man. Some roboticists think of robots as a Physically embodied artificially intelligent machine capable of directly affecting the world. This definition is not necessarily correct as it is quite specific and machines don't necessarily have to meet those parameters to be a robot. A much broader definition that many roboticists and engineers believe is in fact still a physically embodied machine, however as long as this machine is capable of executing a task, or series of tasks automatically with speed and precision based on programmed responses it is in fact a robot. Robots are often programmed by humans to perform tasks by responding to their environments. These can be easily distinguished by general machines because machines have to be told what to do whereas a robot responds to certain things that happen with a programmed function or set of functions.

Robots are already becoming a big part of our lives in the form of everyday items that many households own such as a "roomba" or any number of other robo-vac's which are programmed to map our house and respond to our requests such as "clean the lounge". Autonomous drones are another programmed machine that is artifically intelligent enough to be considered a robot. They are considered a robot due to their ability to self-pilot, performing aerial maneuvers and avoiding obstacles within its environment without a human in control using nothing but programmed responses. There are a lot of things that technically fall into the definition of a robot, but it must be considered what level of complexity the responses fall into and how difficult the tasks that are performed are. For instance when you walk up to most houses a machine uses motion senses to react to your presence and turn on a light to help you see. These sensor lights in fact fall into the category of a robot, however the task being performed probably isn't complex enough to call it a robot. The opposite to that is that many planes have a level of auto-pilot which allows them to maintain their course and follow a programmed route. Although this task and the programming behind it is quite complex it does not fall into the category of a robot as it is mainly controlled by humans.

Technology to build robots is well underway and has been constantly improved on over time. From sensors which recognise motion or heat to trigger alarms and other responses to more advanced technologies such as radar which uses radio waves to detect an objects range or angle. The concept of radar has actually been utilised in a more sophisticated method in the form of Lidar, which laser light that is reflected off objects and picked up by sensors to create a 3-D representation of what the environment looks like. This sort of technology is used allow vehicles to operate fully autonomously making them robots. Artificial Intelligence plays a big part in the success of robots and their ability to respond properly to assist humans in a way that they are expected to. Once artificial intelligence is improved on it will allow robots to perform tasks that will make human lives much easier.

What is the likely Impact?

Advancements in robot technology will allow businesses to operate their day to day business utilising the benefits of having cheaper, safer and more efficient machinery to operate production lines, kitchens and any work in industries that have work that can be programmed into robots. Robotic advancements also allow for a wide range of potential changes in many other industries. Robotic surgery is something that has been worked on for the last two decades and has gotten to a point where robots can quite easily perform a large range of programmed tasks in in the surgery process. The incredible precision that is provided by these systems mean a decrease in chances of human error throughout these procedures.

Robotics has ability to be used for military purposes as well. Having the ability for automated drones to be used in the air-force along with unmanned drones where human nature and instincts are required. Robotics also allows for the use of robots in the army in the place of human soldiers which can greatly reduce loss of life in military conflicts. Autonomous vehicles mean less humans are required to operate military vehicles putting less lives in danger. There are also companies attempting to use soft robotics to build exo-skeleton suits that are capable of being used for labour work to avoid workplace injury, to help people walk again and to even be used in various situations by soldiers.

How will this affect you?

Technological advancements in robotics would allow for improvements in transport, workplace safety and many other industries. The advancements in autonomous vehicles that comes with upgrades in AI and robot technology means that people have faster and easier ways to get around. Improvements in this technology also allow for smarter, safer and more efficient surgeries Although there are great possibilities that are introduced due to robots in every industry. The potential for this technology also comes with the hard reality that with economically efficient robots that are capable of doing majority of the tasks that humans currently perform for a full wage, there will be a large amount of jobs being lost which will take a toll on the economy and affect anyone in the workforce.

There is no doubt that this technology will have great affects for everyone, the possibility of having a robot pet or giving people who have lost the ability to walk due to injuries that ability to walk again is a powerful incentive which could have great improvements on the world. It is the ability to improve work environments in every industry, give people a more entertaining home life and the ability to enjoy this innovation every day that is the most exciting and intriguing part of these advancements.

8. Project Idea

Kids on the Air

We've decided to take a tailored, KISS-principle approach to the Kids on the Air assignment. A key component of the Kids on the Air assignment is the requirement for conditional prompts for young people to follow as they engage in conversations with others. The method or platform of communication is irrelevant in comparison to the way it is conducted. The idea of the program is to teach young people the skill of effective verbal communications as a transferrable skill of completing clear and concise messaging.

This eliminates the need for development of a "soft-radio", or at least the need for an independent communications channel, and allows youngsters to use whatever 2-way communication method is available – phone call, internet chat, Zoom/Skype calls, even video game conversations. Substance on how discourse is engaged is key over the mechanism used.

The plan is to develop a contact logging system that both prompts the user as to how to obtain contacts and record some intelligence (a piece of relevant information) and store it accurately, and then exchange their own set of intelligence. Points can then be earned based on various criteria, including but not limited to distance covered, overcoming complexities such as language or measurable skill barriers, and time taken to complete the creation of a record, and number of records created within a relevant period.

Realtime feedback can be provided based on what data is requested and the mode of operation selected. This can all be achieved using a database driven website, and conditionally developed to anticipate the needs of effective communication practices. The site should be constructed for quick and efficient deployment to common servers using virtual or containerisation, such that the Docker platform provides. This means that the application is compatible with principles of scalability and has the capability from the beginning to serve multiple users at once without performance bottleneck interference to operation.

Should this basic prompted tutorial be crafted, and a method of recording details be successfully implemented, further additions to the assignment by way of dedicated communications channels can be attached if the project reaches a readiness stage to accommodate the advanced functionality.

This could include the implementation of a Mumble server and configuration of multiple channels – a requirement that will depend on scalability of computer system resources to guarantee adequate performance.

The program could also include elements of gamification to encourage user progress in abilities, and potentially even include a leader-board demonstrating who has made the most contacts during the course of a contested period.

9. Feedback

10. Group Reflection