IT Crowd

HTTPS://J6DN.GITHUB.IO/ITCROWD-5/

IT Crowd | Introduction to Information Technology | 12 July 2019

Repository: https://github.com/j6dn/ITCrowd-5

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Clouds

What does it do?

Cloud storage is a form of digital storage and service delivery to the end user weather for personal use or on the enterprise level. It provides average users the ability to back up everything from mobile devices to their computers. This provides redundancy should the device fail. Companies such as Google have started offering applications to use over the cloud infrastructure meaning you can use a full application without downloading and installing it. Google has also released a laptop called Chromebook which is primarily designed to be used while connected to the internet. It uses applications and stores documents on Google's cloud.

It is now possible for an individual to rent an application and use that application over the internet from the providers cloud. This enables the user to use a program for a small fee which they would have had to previously purchase but also enables the user to use a program on any PC regardless of the power requirements of the application. This is because the application is processed on the server so there are no computing requirements on the user's PC. Depending on the application, it may require fast internet which might be a problem in Australia depending what type of NBN connection is available at the location.

Enterprises have utilised the cloud services to enhance their service delivery and enable the latest technology offering for a fraction of the price they would have spent on building and maintaining their own cloud infrastructures. The cloud enables real time collaboration and information sharing easily with the end user often not required to have any IT knowledge. The services have come a long way since the introduction of the cloud to a point where you forget that you are using the cloud.

One cloud service which appeals to businesses more than others is Microsoft Azure. This is because most business system both in Government and Private sector run Microsoft Windows and almost certainly Microsoft Office. This enables a quick transition with the pricing remaining relatedly unchanged due to businesses already licencing Microsoft products. It also provides a greater level of governance because businesses can better monitor the use of all cloud services to gain an understanding of what is currently required and what the future requirements will be.

Software as a service (SaaS) is becoming the preferred method for businesses to supply software to its workers. This enables the software to be used without the end user having to install it or the IT department having to spend time troubleshoot problems with running

the software. Updating the software is also taken out of the user's hands as it is done seamlessly on the cloud which provides the end user with an uninterruptable experience in using the software.

Data sovereignty is also important particularly when it comes to Government clients. Amazon and a host of other providers which do not necessarily cater to the average individual have setup data centres in Australia and secured their data to be compliant with the requirements set out by the Australian Signals Directorate enabling them to do business with the public sector.

New companies such as Freshworks have been able to thrive much quicker by utilising clouds to supply their services than the traditional way of providing an application for companies to install and then providing updates which at times users can be slow to install resulting in incompatibilities due to different versions being run.

This technology will continue to evolve as new discoveries are made and the worlds demand for cloud systems grow.

What is the likely impact?

The cloud technology is impacting every aspect of our digital lives both personal and work related. It is likely in the future computers will become smaller and the current processing power most people have at home and in their workplaces will be made redundant. For this to become viable the internet speeds in each country will need to significantly increase. Australia will have difficulty transitioning to this hybrid use of technology due to the botched NBN rollout which has resulted in many households and businesses with less than suitable internet. This, however, will be mitigated by with advancements in technology such as HEVC video compression allowing for more compressed vide files without the loss in quality.

The cost of having access to state-of-the-art applications and computing power will become available to sections of society who previously would never have been able to afford such systems. This will lead to new businesses and new opportunities for people from all social backgrounds to have access to the same type of technology. With so many people having access to systems it is anticipated costs will also reduce as the costs will be evened out with an ever-growing number of people using these services.

Security will be a big issue and the public trust in such services. Currently people are much more comfortable having their data stored on their own devices rather than storing personal information on a cloud. Service providers have implemented encryption and enhanced security for the use of clouds which have provided certainty of cloud information being stored securely. With Government surveillance in many parts of the world being able to covertly access stored information trust placed in their services will always be questioned. As with any evolving technology hacking will also evolve providing even more challenges to cloud security.

How will this affect you?

I have been using cloud storage since approximately 2011 and have seen positive improvements to the functions offered. Initially, basic storage was 2GB which allowed for some of my files to be stored in the cloud. It was not enough to store my extensive personal photo and video library but was enough to store work papers I planned on reading at home. This cut down on me remembering to always bring a USB with me or to print at times 100 pages of reports and briefing notes. Additional storage was expensive and was not fully integrated with my mobile device (BlackBerry) so it was not attractive for me to purchase additional storage as I would not get full use of it.

At the demise of BlackBerry, I moved to the newly released iPhone 6 where I saw clear benefit of iCloud and its ability to integrate with the device. I moved all my files from various PCs and portable hard drives to the iCloud which is now my primary cloud storage.

Apart from iCloud integrating with my iPhone so well, I decided to use it over other providers due to the security features offered by iCloud. The research I performed at the time showed Microsoft's OneDrive does not encrypt data in their data centres for personal users which for me meant there could at some point be a data breach and all my information leaked to the internet. iCloud provides encryption of all the offered services and has a proven track record in maintaining user privacy and security.

In terms of applications, I don't use any cloud-based applications currently, but I can see this becoming a part of my digital life in the future. Internet speed would be a stumbling block for me to transition to cloud applications. I do think in approximately three years the 5G mobile network might be able to provide me with adequate internet speeds providing service providers invest in backed infrastructure so that the 5G speed can be realised.

Autonomous Vehicles

What does it do?

Like many everyday technologies their development can be traced back military research and development. Autonomous vehicles are another such example. In the early 2000s the United States congress set aside funding for the development of driverless vehicles to reduce battlefield casualties. The Defence Advanced Research Projects Agency (DARPA) was tasked by congress with the development of this new technology. During the next several years, DARPA was largely unsuccessful in developing a functional autonomous vehicle (WIRED, 2017). In 2004 DARPA held a public competition with a one-million-dollar reward for whoever could develop a fully driverless vehicle capable of completing a pre-planned route. This was the first major exposure of autonomous vehicles to the general public.

The popularity of autonomous vehicles was firs bought into the spotlight by Tesla with the release of the Model S which proved such technology can be adapted to our current road

system and is capable of safely carrying passengers and making autonomous decisions. Since the release of the Tesla models, software updates have added extra features contrary to traditional vehicles with which you had to purchase an entire new vehicle to take advantage of new features.

Autonomous vehicles have created a whole new industry and vision for the future. While the autonomous vehicles are popular, they largely remain out of reach for the ordinary person due to their high cost of ownership. As the technology develops it is expected these prices will come down enabling a greater portion of society to transition to not only autonomous but also more environmentally friendly vehicle.

Having an autonomous vehicle will enable traffic jams to normalise because your car will be making decisions how fast to go even before you hit a traffic jam. This is possible as the vehicles will be connected via the mobile network which will allow them to know in advance the road for kms ahead if there are any hazards present. As the technology improves vehicles will be able to drop passengers at the entrance to the shopping centre and find their own parking.

The biggest benefit to autonomous cars will be the reduction in accidents. As the vehicle has capability to self-monitor systems and communicate with other cars on the road, the sudden or unexpected lane changes or the driver falling asleep will become a thing of the past. This technology will take a long time to implement and government action should be taken to speed up the transition in order to remove conventional (dumb) cars from our roads.

Current traffic laws governing our roadways will eventually need to be re-written as autonomous cars will be hindered by having to stop at red lights or stop signs. These will not be required due to the advancements in autonomous vehicles. Society is in the early stages of adopting these types of technologies so it will take a significant amount of time to fully transition to these systems.

Just as there are people still carrying outdated flip phones, some people will not be comfortable with allowing a vehicle to make all the choices so it will take a significant part of the next few decades for this technology to become mainstream.

What is the likely impact?

There are many positive impacts of autonomous vehicles with some of them we cannot being to imagine now. As previously mentioned, traffic jams will all but disappear and the efficiency of these vehicles will become higher than when driven by a person. This is due to the computer being better able to manage acceleration and not be drawn into road rage incident or speeding as a driver would.

With anything moving to automation there will be negative impacts. Delivery drivers, taxis, ubers amongst others will be left without a job due to the cheaper alternatives. People in

these industries demand bigger wages which in turn will result in the company seeing autonomous vehicles as more cost effective.

This technology will not majorly impact society as a whole but will enable people with sufficient income to make the transition first. As we have seen with Tesla models, they provide autonomous features and constantly add new one by way of software update, but their vehicles are still out of the price range for the majority of ordinary people. The current shift in vehicle manufacturing focuses on electric rather than autonomous features. This will further slowdown the development and wide scale adoption.

Job impacts of this technology will be felt across every sector. Some airports such as Frankfurt in Germany and Doha in Qatar have monorails which transport passengers without a driver. In the years to come industry where salaries are high will be the first to implement autonomous vehicles leading to job losses which will lead to reduced revenue for the government. When looking at the overall picture of emerging technologies and automations across the board it is clear society will have to change and adapt to new ways of doing thing, new taxation systems and new ways of doing business.

How will this affect you?

I am a geek at heart which has resulted in some of my home being automated. I recently purchased a new car which has semi-autonomous features. My car is the Skoda Kodiaq fully equipped with all options. It can park itself, keep itself in a lane, adaptive cruise control and will also self-break if it detects a collision and I don't respond. The automation has affected my driving and I am happy for the car to take control on the highway. I did find it has a slightly lower reaction time than what I would have if I am in control. Given my vehicle is one of the first to be equipped with this technology I did not expect it to work brilliantly. Knowing the limitation of the automatic functions available is what makes me feel at ease letting it control the car on a highway.

My preference for vehicles is to have an SUV which limits the availability of automatic features at a relatively normal price. I have been following the development of the Rivian SUV which has confirmed it is coming to Australia. This SUV is touted to possess very similar automation to a Tesla while retaining off-road capabilities. I do drive off-road on occasion including crossing of rivers, so it is important to me any future vehicle I buy is able to withstand water crossings while at the same time giving me a comfortable drive to work during the week.

I have a lot of friends who are not technologically savvy who I see would struggle at adapting to these technologies. The impact would be similar to people owning computers who do not utilise all the power available. People will buy these cars but not use the technology for the fear of something going wrong.

Cryptocurrency

What is cryptocurrency and what does it do?

Cryptocurrency is a medium of exchange similar to normal currencies such as AUD and USD but it is designed for the purpose of exchanging digital information, some examples of cryptocurrency are BitCoin, LiteCoin, and Etherium, these are the most popular at the moment, these all have different values when it comes to how much an item costs. Say an item costs $100USD that would mean that the item would cost around 0.0086 BTC (Bitcoin), 0.362073 ETH (Ethereum) and 0.949616 LTC (LiteCoin) there are endless amounts of cryptocurrency and some succeed but most fail as they are usually just a way for the creator to try and get rich from the success of the coin.

Cryptocurrency uses cryptography as security, cryptography was created in the second world war which required secure communication. When compared to physical money it is hard to counterfeit, what cryptography does is uses public key cryptography to secure transactions and verify the transfer of assets. How public key cryptography works is that the user has a public key and a private key which are both encrypted strings of numbers and letters that are around 30 numbers and letters long, the reason this is so secure is because the legitimacy of the transaction is verified through the use of the private and public keys which are checked by bitcoin miners using a series of algorithms to get the final result which is a secure legitimate transaction that is fully secure and encrypted and ensures that no fraudulent transactions are taking place and this is done through a cryptographic hash function.

Traditional currency goes through something called a central payment processor such as your bank or credit card provider whereas cryptocurrency such as Bitcoin uses something called a blockchain. What a blockchain does is uses a large distributed network of computers running special crypto software, whenever a transaction using Bitcoin occurs the network takes a record of the senders and receivers bitcoin addresses and the amount transferred and enters the information received into what is called a ledger which is essentially a record which is the blockchain, this is updated over 100 times every single day and is then sent off to every single computer that processes bitcoin and because these transactions are encrypted with public key cryptography and verified by numerous computers on the network to ensure that every single computer on the network is using identical and correct versions of the blockchain since it is updated so regularly it is impossible to counterfeit or double spend the cryptocurrency.

This is where bitcoin miners come into play, computers or massive mining rigs built for the sole purpose to mine connect to the large processing networks which use software that groups the transactions into blocks and are only accepted by the network if the computer/software finds the correct numerical values. This process is very time consuming and demands a high end computer to be able to complete the task efficiently, the incentive for the bitcoin miners is when the software finally successfully processes a block, it is then added to the end of the blockchain and the system generates a bitcoin which is put into the miners digital wallet and thus pays them for the time used to successfully process the block.

The most important feature of cryptocurrency is that it isn't controlled by any central authority which means that no central authority, government or corporation has no access

to your funds or your personal information, using cryptocurrency means that you do not have to go through the process of using a bank to complete your online purchase, you do so by using the cryptocurrency of your choosing.

What Is the likely impact?

I believe the use of cryptocurrency and its widespread worldwide adoption will allow less developed countries that have not yet even fully been allowed bank accounts, credit/debit cards and many of the businesses in these countries do not allow the use of electronic payment, this opens up a lot of doors for people to access cryptocurrency to pay for things all over the world. These people could try and put together a computer dedicated to mining crypto and be able to earn some in the process. I think in many years to come it could be possible for employers to use crypto to pay their workers, if the worker has chosen crypto that is.

Already we are seeing inflation in computer parts all over the world specifically graphics cards, since the demand for high end graphics cards is at an all-time high thanks to mining crypto currency it has made people who build computers for a hobby or for specific tasks such as gaming and productivity builds seek second hand parts before trying to purchase the inflated brand new parts, an example is Nvidia GeForce 1070ti the starting price at release of this card was $379USD and from the inflation of crypto mining it peaked at a price of $789SUSD on Newegg which is a place used to buy computer components usually at a reasonable price.

Many businesses already allow the use of crypto for payment for their products, taking approximately taking almost 20x the amount of time compared to a purchase using a debit card and uses around 5000x more electricity or power then using a card for your purchase I still believe that using your debit/credit card until the adoption of crypto is everywhere is a better decision.

How will this affect me?

Being able to send amounts of money peer to peer instantly and without any fees with be an advantage and also being able to use crypto when making in store purchases will make life a lot easier instead of keeping my money in a bank account which would be less secure then a cryptocurrency wallet.

Keeping my money in a crypto wallet is also a risk in its own as the price of the crypto is always changing and either gaining or losing value when compared to USD. For example, I could have 2 Bitcoin with the value of around $23,580USD and go to sleep and wake up the next morning and the same 2 Bitcoin could have a value of $11,000USD losing half their value and there is nothing you can do about it.

Cybersecurity

What is cyber security and what does it do?

According to Norton, cyber security is the state or process of protecting and recovering networks, devices, and programs from any type of cyberattack. Cyber security helps protect people and businesses' from the everyday dangers of the internet, whether this be from malware, RAT's, ransomware or warning users about to enter shady websites that have been designed to mimic a legitimate website that end up stealing your information and using it for malicious purposes.

Cyber security is important for these reasons and it is important that it is regularly updated as an estimated 230,000 samples of malware are uploaded onto the internet daily, these can be revised versions of previous malware designed to trick the cyber security programs into thinking that it is a clean program and does not contain any malicious content. There are many programs you can use to protect yourself on the internet, for example you can use password managers that generate a random string of numbers and letters to create you an impossible to guess password. This paired with an antivirus program and a general understanding of the internet will keep you safe from most of the dangers on the internet.

Everyone is possibly affected by cyber-crime attacks, companies, your friends, your family and even yourself, with 93% of money in the world being digital you want to take all the measures possible to keep yourself and your friends and family safe from attacks. A big form of malware called ransomware has been making headlines all over the world. What this does is lock your computer and usually encrypt all the files on the hard drive that aren't needed to run windows or the operating system your using. The only way to recover these files are through sending the amount demanded by the people running the ransomware and they then are supposed to send a key to unlock your files, but majority of ransomware spreaders will not send your key after you send the money. The reason this is so affective is because people who are not computer literate usually visit shady websites and download sketchy programs that people who have been around and about on the internet know not to visit.

Companies such as Norton, Kaspersky and Malwarebytes offer general protection from these dangers by completing a series of tasks to help detect and quarantine a virus or malware, these series of tasks include full system scans which run through your computers folders and try and locate programs that are malicious or are harmful to your computer in any way.

Now businesses' employ teams of people to defend from cybercrime groups, these groups are often teams of experienced developers and have experience when it comes to hacking. These groups often popup and try and get through a businesses' security software that is in place, because no matter how protected or secure the security software is there will still be cybercrime groups trying to get through and steal sensitive information, this could be user data or personal information and even the companies files if they contain something that the group wants usually ending up in monetary gain for cybercrime groups.

What is the likely impact?

As the internet grows in popularity all over the world, the appeal for hackers also grows without cyber security advancements personal data would be leaked and compromised along with data from businesses' which could cause harm to either the reputation or integrity of the business along with possible financial losses and data leaks that could harm either the customer or even the employees.

There are also a lot of demands for cybersecurity outside of business or personal computers and servers such as cars that use software to control the cars speed, position and overall the driver's safety. If say, a hacker managed to be able to get into a Tesla users software if they really wanted to they could cause great harm to the driver and this could be devastating once the world starts to adopt these features in all modern vehicles.

Even children are at risk on the internet, usually unmonitored on their devices which the parents would usually think are completely safe and usually are but hackers can do anything and could possibly become malicious and either put something inappropriate on the screen or potential something to frighten the children which has been done in the past with things such as MOMO, a scary figure spliced in-between children's cartoons telling the children to do outrageous things such as harm themselves which is completely disgusting so you could only imagine what a hacker could do.

How will this affect me?

With the advancements in cyber security and taking all the correct measures to keep my data and online identity safe, I believe I can be safe on the internet and safe from personal cyber-attacks. There still are the possibilities of potential data leaks from hacker groups leaking personal information from websites, but by signing up to websites such as haveibeenpwnd updates I will get a notification if a password or combo has been leaked.

Nearly everything in a home nowadays is paired with some sort of software to be able to make life easier, for example controlling your entire houses lights with a smartphone and even simple things like house heating and cooling systems being controlled b a moblile device. I honestly have no idea how many more technological advancements will be seen when it comes to home and living, with these needs to be a level of cyber security that is state of the art to ensure the user is going to be safe in the comfort of their own home I wouldn't want to be sitting at home and some person who isn't necessarily a hacker but still wants to be malicious to people and disrupt them starts turning off and on the lights or adjusting the heat in the room through software on his computer because he was able to connect using an IP address that he got through some means.

IT Work

IT professionals do a variety of work sometimes not entirely in the "IT field" as popular opinion would suggest. The IT professional interviewed for this assignment is a Team

Leader within a Queensland Government department, who is responsible for overseeing functions of the Service Desk which is the first point of contact for clients.

The role of a Service Desk Team Leader performs a wide range of functions including managing call volumes, providing guidance and training to staff, rostering and liaising between different groups to get the job done. It is a very dynamic role requiring skills in multiple fields not necessarily just in IT.

Interaction with clients is the most common type of interaction when working on the Service Desk. The Team Leader role has a wider level of interacting as this role is responsible for coordination of various tasks throughout the IT department as a whole. At times there are Very Important Person (VIP) requests which typically need progressing more urgently than regular jobs. To achieve this the Team Leader will oversee the resolution to the job and escalate the job if it is not progressing at a reasonable speed.

At times there are jobs with complex requirements such as a new system rollout which need greater scrutiny from specialist areas before it is released to be used by the client. This will involve liaising with Security, Networks or Workplace Technology who is responsible for packaging the software for easy install by the client.

Occasionally hardware will break which requires a service call placed to the vendor who will repair the item. The Team Leader will coordinate with external stakeholders such as Dell and HP to ensure availability of service personnel and adequate spare parts are kept in stock for the models used by the clients.

The majority of the time, the Team Leader spends organising staff availability and various HR duties and liaising between staff and various support groups. While this is an IT role by definition, a large percentage of time is spent doing traditional managerial duties.

White the Team Leader did mention anything specific about being most challenging, the role certainly appears to need a person capable of remaining calm in difficult situations and being able to make quick decisions which will need to stand up to scrutiny if something was to go wrong later. The nature of this role makes it evident the right person requires ample workplace experience in IT and management to be a successful Team Leader.

Project Idea

Background

With the ever-increasing demand for drones, (Intelligence, 2017) this project idea will focus on developing drone software capable of identifying cleared land and cross referencing this information with land clearing approvals granted to landowners. Drones have proven themselves to be faster than conventional methods of checking compliance and are already responsible for a number of illegal clearing disclosures by environmental groups (Heathcote, 2018) which would otherwise in most likelihood remained undisclosed.

Data Sources

Current drones such as the DJI Matrice 600 have the capability to fly on preprogramed courses, identify hazards and carry varying types of equipment..

Developing software which can identify areas where illegal clearing has taken place requires pre-requisites to be met before the drone will be able to perform these tasks autonomously. One of the key elements needed is the Global Positioning System (GPS) details of approved clearing areas so the software can clearly distinguish between protected areas and approved clearing areas. To an extent this is already captured by some Government agencies (Qld.gov.au, 2019) however it is not mandatory. For this project idea to function, responsible state and federal bodies will be required to mandate landowners to provide GPS details on their land clearing applications.

The intended use of these drones is largely beyond visual line of sight (BVLOS) to enable greater coverage which poses a safety and regulatory hurdle. The organization which aims to operate these drones would be required to hold an operator's certificate and have area approvals (Civil Aviation Safety Authority, 2019) from Civil Aviation Safety Authority (CASA) before commencing any operation. The safety aspect will be mitigated by utilising a drone with redundancy systems such as the DJI Matrice 600.

Development

The software to be developed will need to communicate with a multitude of systems including DJI Matrice 600, onboard LiDAR equipment, and desktop software. An app developer specializing in desktop and mobile applications will have to be engaged to begin development of the app.

During the development and testing stages experts on vegetation management and drone operations will be required to fine tune the apps and ensure the apps have not compromised the safety systems of the drone.

This app is intended to operate throughout Australia and as such will be bound by The Privacy Act 1988., however states and territories have their own privacy acts which the app and storage of information might have to comply with depending on terms and conditions by which the procurement contract is governed by. To manage this process privacy and procurement experts should be consulted to implement the proper information controls and conduct yearly audits of data security and integrity.

The approved and rejected land clearing information will be sourced from contracted government agencies and then used by the app would need to be available remotely and securely. Storing the information on a cloud system compliant with the "Protected" status as specified by the Australian Signals Directorate (ASD) (Cyber.gov.au, 2019) will meet Government requirements at all levels.

Deployment

With the overall package ready for deployment, it will be necessary to have suitably qualified staff to operate the drone, gain appropriate approvals to operate BVLOS. Recently many local councils have started to add their own red tape to a relatively simple CASA application and approval process which might create a delay in obtaining the necessary approvals to operate drones. Land clearing is generally done in less urban (regional) areas where the population density is much lower than in the city so it is expected local council bylaws will not be a major obstacle to drone operations.

Marketing brochures and test flights will be prepared to showcase the capabilities of the software and it's integrating into the drone system.

Group Reflection

The group work went really well and everyone did their part in contributing to the

Jayden Kube S3803380

What went well?

I believe our group as pretty strong and have some common interests, we all collaborated on the assignment and I think the final product is coming along nicely. The communication was good on most days, but life can sometimes get in the way which is completely understandable.

What could have been improved?

If it were possible more communication from all of us combined would have made it a little easier on each of us, I believe we did the best we could and discord was an amazing tool for us to collaborate ideas and communicate, I believe we could have had a plan on how things were going to go once we were all in the group but it all worked out in the end so no complaints from me.

At least one thing that was surprising?

How everyone came together and was able to get along with no problems at all, how friendly and laid back everyone in the group was made it super easy to collaborate ideas and get feedback from members.

At least one thing learned about groups?

One thing I learnt about groups is that time management needs to be implemented and if possible, certain days should be allowed for feedback and general inquiries when it comes to group work and how the workload is going to be shared out.

Igor Corovic – S3799257

What went well?

The group has worked very well in dividing the required tasks and discussions around what needed to be done. There were no issues in the group at any stage during the assignment.

What could have been improved?

I would say had we started earlier and been a bit more organisd at the start it would have allowed us more time to plan and prepare the documentation.

At least one thing that was surprising?

I found discord to be pretty good and fast tool for communicating and sending files. Never used it before but I like it now.

At least one thing learned about groups?

Working in the IT area that manages over 9000 users I learnt pretty quick that you need to work in a team to get anything done properly. Nobody is an expert on anything and ensuring everybody understands everything is key to being successful. I found the same strategy worked here.

Alex Edmondson – S3403540

In our group the organisation led by Igor and Jayden was fantastic. They delegated equal amounts of work and set up the discord server where discussions were held. These discussions were imperative for setting times and talking about strategy when completing the tasks that had been given out. It wasn't just 4 people putting 4 separate pieces of work together there was a real teamwork orientated project.

To be honest my time management and communication skills could improve. I didn't put in as much effort in early as I should of, this was generally because of working commitments. However, going through the group profiles of the other members they are full time workers as well, so there should be no excuses for not putting in as much as the other members.

One thing that surprised me was the kindness and thoughtful nature of the group. As a said earlier there was a real team first mentality in this group. It wasn't 4 individuals putting together 4 separate pieces of work, there were discussions on the different parts of the assignment and constructive criticism was given and taken aboard.

I have learnt that all groups need a leader, someone with the qualities that can take the bull by the horns and delegate tasks. Without this leader figure groups can fall apart, I am just glad that we had that in Igor and Jayden.

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