

Our IT Project

Wallflower Inc.

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Team Profile

Team Name

Wallflower Inc.

Personal Information

**Angela Hoang (s3661245)**  
<https://s3-ap-southeast-2.amazonaws.com/itprofilehello/introtoITAssignment1AngelaHoang/index.html>

I am a Vietnamese Australian living in Melbourne, Australia. My casual hobbies include creating traditional art and playing my piano. I enjoyed creating websites and playing around with different computer applications, which sparked my interest in wanting to learn and develop my own computer or mobile application. I have obtained basic IT skills in programming in the languages of C++, Java, HTML and MATLAB for projects during my study career at RMIT and self learning.

**Shams Saif (s3650265)**

<https://s3-ap-southeast-2.amazonaws.com/itprofilea1/Assignment+1+IT+Profile/Index.html>

I am an international student from Bangladesh. After I finished High School, my passion for IT and interest to gain more knowledge has brought me to RMIT. I like to play video games, explore new places and meet new people. I didn’t have much knowledge on IT before, but I am gradually gaining more knowledge through my studies.

**Lewis Eldon Reed (s3683186)**

[http://lewisintro2.s3-website-ap-southeast-2.amazonaws.com/#](http://lewisintro2.s3-website-ap-southeast-2.amazonaws.com/)

I'm first generation Australian, born in Perth in 1992 after my parents emigrated from the United Kingdom. My hobbies include creating visual art (painting/drawing) and music production. Currently, my experience in the IT realm is restricted to the knowledge I’ve so far attained through my university studies.

**James Parsell (s3599751)**

<http://htmlpreview.github.io/?https://github.com/Jamesparsell/Index-1/blob/master/Assignment%201/index.html>

I comes from an Australian an Egyptian background with my dad being Australian and my mum being Egyptian. My favourite hobby is playing video games, mostly league of legends. My IT interest are in devolving VR games and artificial intelligence. I have the general skills associated with a normal IT user however unfortunately I have no specialized IT experience.

**Harman Puri (s3651291)**<http://htmlpreview.github.io/?https://github.com/s3661245/website/blob/master/html5up-ethereal/index.html>

I am half Pakistani and half Indian as my dad is from Lahore in Pakistan and my mom is from Amritsar in India both of which are in Punjab hence me being Punjabi. However, I was born in New Delhi India on the 6th of October 1999. I can speak over 10 languages that being English, Hindi, Punjabi, Urdu, Italian, French, Spanish, Portuguese, Dutch, Indonesian, Korean, Japanese and Farsi. I am passionate about cars especially imported cars (Japanese and European). I have also been doing martial arts for 13 years.

**Joseph Nemhara (s3723289)**

<https://s3-ap-southeast-2.amazonaws.com/itprofile/index.html>

Hi! Im Joseph Nemhara, I was originally born in the United Kingdom, but my family and parents originate from Zimbabwe in Africa. As such, along with speaking English, I am also able to speak my native language, being Shona. However, after long periods of time of not speaking it, at this point I can merely understand the language but not fluently speak it myself. As of now I have attended a number of schools throughout my life, including primary school in both England and Australia, as well as high school in Australia as well with St Francis Xavier College. One fact about myself that not too many people are aware of, is that in the free time I have, I like to indulge in creating rap music, from creating the beats, lyrics and recording the songs and uploading them to music streaming sites such as SoundCloud.

Group Processes

The group did extremely well in Assignment 2, as all parts of the assignment has been completed with satisfactory quality. Possible changes towards completing this assignment will be arranging deadlines and encouraging more communication between each members of the team, so that the final report will completed efficiently. Team meetings will also possibly be arranged so that updates from each member will be obtained.

Career Plans

Each person in the group has different career plans and ideal jobs. Angela, Lewis and James intend to see their future IT career in traditionally ‘artistic’ ways. Where Angela wishes to combine creative and technical knowledge to explore design through real-time graphical display. The title for this career is an Interactive Programmer. Lewis prefers to be working with music, and helping create improved online platforms for musicians in their work. This is titled as a Backend Software Programmer. James prefers to work within the visual production field of IT, where he hopes to create VR environments as a VR Rendering Developer. Joseph hopes to work in a more technical and practical side of the IT field, where he can assist in maintenance of computer systems as well as software systems as a IT support Officer/Technician. Shams inspires to be designing the environment for the user experience where he can be titled as a UX Designer. Harman however is ambitious to use her technical and interpersonal skills to lead a team biomedical engineers as a Team Leader or Project Manager. The common elements with everyone’s ideal jobs is that it all involves certain technical skills within each career. However, it differentiates with each position, since some careers are more artistic and creative, whereas other careers are more practical and technical to help improve life for humans. Each person in the group has different direction towards their career paths, as terms of the specialty they are interested, however, they are similar in a way that they assist and improve the lifestyle for the world in its way.

Tools

To identify user location GigAtlas will use the phone's GPS or data from the wifi network connection. Mongo DB will be used for the database framework. For the map oriented function, a mapping tool such as MapBox will be used. For the actual creation of the app the Java programming language will be used. RestfulAPI will allow for the connection between the app and Facebook. For the front-end, Javascript and HTML5 will be harnessed to create the visuals.

Link to Wallflower Inc website:

https://s3-ap-southeast-2.amazonaws.com/assignment2hello/ITassignment2WEBSITE/index.html

Link to Wallflower Inc Github repository:

https://github.com/Shams-Saif/A2

Comments:

Through the Github audit trail, we were able to see that most members were contributing towards the completion of the assignment in a both appropriate and efficient manner. They show us that every group member did their part and was contributing equally to the project.

Industry Data

**What are the Job Titles for your group’s ideal jobs? How do each of these rank in terms of demand from employers?**

*Angela: An Interactive Programmer*

*Joseph: IT Support Officer/Specialist/Technician*

*Lewis: Backend Software Developer*

*James: VR rendering developer*

*Shams: UX designer*

*Harman: Team Leader of Biomedical Engineers Team*

From the industry data supplied by Burning Glass, ‘Software Developers/Engineers’ is the occupation that has the highest selection within the field of Information Technology, as a total of 29,456 Software Developers have been selected within the company Burning Glass.

The ideal job of a ‘Backend Software Developer’ from Lewis may be categorised into this occupation. A ‘Help Desk Officer’ from Joseph’s ideal job description is ranked fifth in terms of the demand from employers who has hired 9,416 in the last two months in Burning Glass.

In eighth place, the occupation ‘Computer Programmer’ has a large amount of hired employees as 4,436 has been recruited for Burning Glass. In terms of the group’s ideal jobs, an ‘Interactive Programmer’ from Angela’s ideal job may relatively fit within this category of occupations.

Within the data of the Top Burning Glass Occupations, the ‘UI/UX Designer’ is placed fourteenth, with a number of 2,848 employees. For James’ ideal job as a ‘VR Rendering Developer’, this occupation may fit within the occupation as the ‘Multimedia Designer/Animator’, as this places 19th place out of 25 occupations from Burning Glass’ Top Occupations data list.

As for Harman’s ideal job as a Team Leader for a Biomedical Team, Burning Glass does not have the appropriate data as it is an IT based company, however according to the Bureau of Labour Statistics, the employment of Biomedical Engineers is estimated up to 20,100 employees in 2017.

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

From the industry data supplied by Burning Glass, Java and Javascript are the highest ranking specific skill that would be required by most of the group members with over 5,000 active selections collectively. Following this would be graphics design in second place with 2000 selections, a skill needed by members such as Angela.

The third ranked skill would be technical support with 1800 selection, a skill required by those such as Joseph.The fourth ranked skill is C# according to Burning glass with 1643 selections, this is skill is required or several of our group members such as Angela, Lewis, James, Shams and Harman.

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

From the industry data supplied by Burning Glass, the number one general skill required was communication skills with 44,367 selections. This is a skill required for all group members, but primarily those such as Joseph and Harman in their chosen professions.

Second ranking would be problem solving with 16,445 active selections, another skill needed from all group members but primarily those such as Lewis, Joseph and Harman. Team work/Collaboration ranks third amongst the group with 14,364 active selections and is required by all of the group members.

**What are the three highest ranked IT specific skills which are not in your required skill set?**

Firstly the highest ranked IT specific skill that is not in the required skill set would be SQL, with 3570, active selections, followed by SAP, with 2189 active selections. Then finally Business management would rank third with 2141 active selections as a skill not required by any of the group members.

**What are the highest ranked general skills which are not in your required skill set?**

Firstly the highest ranked general skill not required in the skill set according to Burning glass would be, research with 7227 active selections, followed by mentoring, with 4538 active selections. Then finally “Self-Starter” would rank third with 1984 active selections as a skill not required by any of the group members.

General skills that many companies have high in demand are communication skills, team building, as well as researching. These skills may not be up to standards, however through experience and self motivation to take action, these skills can strengthen in each members of the Wallflower Inc.

**Having looked at the Burning Glass data, has your opinion of your ideal job changed?**

After viewing the statistics from the Burning Glass data, a majority of the group members are still passionate about their ideal jobs, hence, all members of Wallflower Inc has not changed their ideal job changed even after seeing the data. Most group members have analysed what type of professional interpersonal skills they need to strengthen, generally such as problem solving and organisational skills, as well as IT skills such as developing and strengthening in programming languages in Python or C#.

IT Work

1. What kind of work is done by the IT professional?

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

3. Where does the IT professional spend most of their time?

4. What aspect of their position is most challenging?

Video One

https://www.youtube.com/watch?v=WGN4Y-fw2PM

1. Technical support and consultancy.

2. Deals directly with clients at the client's workplace.

3. The workplace of his clients, usually in the business sector.

4. Entering the workspace of clients means adhering to their rules and policies to the best of your ability while you remain in their space. Such rules can be taken very seriously, and prove difficult to remember to adhere to when one has multiple clients.

Video Two

https://www.youtube.com/watch?v=PCmkTcFYrX8

1. Support specialist

2. Provides support to customers over a telephone.

3. Within a large office space open 24 hours containing 200 employees completing the same task. Interacts with other members of the support sector, including the other tech support staff and field techs that are dispatched to the client. Spends the majority of time taking speaking with clients that require assistance.

4. He mentions that issues with network configurations are the most common. It seems in his role he must work with clients that may often have very limited knowledge about the network systems that they interact with and rely on for their job. Having a job working to find solutions for clients requiring emergent solutions may mean the client could often be in a bad mood or stressed. In a situation like this, dealing with the client could be grating to one’s mood and could interrupt the IT person's regular working patterns.

Video three

<https://www.youtube.com/watch?v=PCmkTcFYrX8>

1. Runs a start-up service connecting cleaners with private clients. Specialises in User Centred Design.

2. The IT worker has a team of employees working at her company headquarters. She discusses the average length of time the cleaner usually remains on site, this implies that there may exists a channel of discussion with the clients in order to improve the quality of service.

3. From the video it appears she would spend the majority of her work time developing the service's platform.

4. The IT professional discusses the difficulty faced by women in the IT industry, and why it is important that women enter all industries.

Video four

https://www.youtube.com/watch?v=b32lsorOF3s

1. Web developer

2. Works as part of a team developing websites.

3. Spends the majority of time at work location, has work from home day once a week.

4. Being presented with a problem that you haven't yet come across may bring a feeling of anxiety to the role. One may not feel ever fully prepared as they can never be sure that the next job will not provide a task that they currently lack a solution for. Your skill level is a huge bottle neck on your performance and this also can be nerve wracking. Work may feel significantly less structured when compared to other industries.

Video 5

https://www.youtube.com/watch?v=5fpggknHC2c

1. UX designer at Google.

2. Works as the sole designer within a team tasked with improving the usability of the search function provided by Google.

3. Works within a team at a Google facility. He is the only designer in his team, and works closely with other members to create new UX solutions for the search function.

4. It is mentioned in the video that developers with more experience may often struggle to listen and take on useful information from workmates with less experience.

Video 6

https://www.youtube.com/watch?v=f8e-be\_nMa8

1. CoE solutions architect

2. Works with colleagues to provide solutions on technical problems faced by clients.

3. They work with a large variety of different kinds of people as each job is different. Interacting with people working with a large variety of technologies.

4. Being successful in this role means staying ahead of new technologies. Attaining this education is often the employee’s responsibility.

Video 7

https://www.youtube.com/watch?v=bDzz4CElL6A

1. Range of different role, working in many different roles throughout all development processes at IBM.

2. Works in a range of flexible roles solving problems at IBM.Works within a team using many different methods of brainstorming such as creating artwork to help improve their output.

3. His job seemed to compromise of interaction between developers and another team providing them with tasks.

4. When you finally get a job as a developer, you must not expect your education to be over. Many positions require a constant rate of learning new things in order to find the best newest methods of developing.

Video 8

https://www.youtube.com/watch?v=emgVd22Yop8

1. Works as an educator in IT to classes with students across a wide age spectrum, and as a front-end designer at Squarespace.

2. Spends 50% of time working for clients creating website solutions, and the other 50% educating others.

3. Works in an office space surrounded with other developers, and appears to travel with work when doing the educational part of her job.

4. Again, she highlights the current situation of male dominance in the IT industry and discusses the importance of equal representation.

Video 9

https://www.youtube.com/watch?v=c0o6BPYKBiA

1. Video game designer for Mind Control Software

2. Spends all work time in her office at the Company office create visual designs for concepts given to her by another team.

3. Her interaction with colleagues is mostly limited to her providing her designs for approval to her senior.

4. In her she believes that you're not going to able to thrive as a video game designer if you don't like video games. Simply having the ability to create games does not mean you're the right fit for a job.

Video 10

https://www.youtube.com/watch?v=7trO3sQzmf8

1. Robotics Engineer

2. Works within a team, designing and innovating new robots. Uses a soft leadership role when working with team members.

3. She spends time working with her team, while also cultivating a strong presence in the open source community.

4. This IT worker also uses her time being interviewed to shed light on the disproportionate representation of men over women in the industry

IT Technologies

Robots

A robot is a automated mechanical machine that has a program within its hardware system, which can enhance or assist with activities in the everyday life of the human race. The state of the art of robots is greatly advanced compared to historical periods, since the continuous growth of artificial intelligence has improved well as a result from developing science and technology milestones step by step. The main characteristics that determine what a robot is, are distinguishing components like whether the machine can detect its surrounding environment, can execute tasks autonomously without any human control, intelligently respond to complex problems such as ‘sensing’ and ‘actuation’.   
There are many different types of state of the art robotics and they all enhance and excel at a task greater than what a human can. For example, a state of the art robot can perform an extremely precise medical procedure better than any human doctor as human error may occur. However, there are other State of the art robotics that affect completely different areas and fields. Such as a robot intelligently recording and sending data from different planets back to earth.What may be implemented in the not so distant future is a full robotic AI which can use enhanced learning to enhance different capabilities. Artificial Intelligence robots can be used for close to anything and can help complete complex and simple tasks without having to be programmed exactly what to do, it will be able to learn what to do and how to do it. However, it will not be able to be creative or come up with ideas. A advanced AI robot like might be available in 3 year however it is doubtful that it would have a consumer friendly price and can be priced in the million’s, but nonetheless is can still be developed and made.

There a lot of developments that could make advancement in AI possible, improved programming and new programming languages, as well as better batteries and performance functions, increased processing power will allow the AI to understand and think more intelligently faster.

There are many potential impact of this development as this can change the way people live and use technology as it could become a part of everyone lives all the time. Depending on how the AI robot is used for this could dramatically speed up research in multiple different areas of study, fix a dangerous or potentially dangerous situation in, increase the general standard of living that a person has.

As the AI robotics has huge potential there are some general good and bad examples of what potential could happen sometime in the future. A positive difference that Ai robots could have to people is to perform tasks that other people might not want to do or wish to do such as mundane house work like clean the dishes, go to buy groceries dropping off or pick children up from school, lifting heavy objects. This could affect all types of people equally as it could change the way everyone lives such as helping a child do their homework for however long they are need, to helping an adult with complex problems or doing simple house chores, to looking after the elderly assisting them with any of their need and making sure medication is taking on time and that they always have medication to take.

However, AI robotics could have a very negative side such as creating robots to fight in wars and to kill other people. Such an advancement would make the robot capable of wiping out people that do not have this technology and may encourage nations to go to war with each other as it has a technology advantage and can easily defeat other countries that don’t have this technology. Even if robot fought for a against another country with robots then it would be commercialising war which made lead to encouraging war. Even if no human lives are taken in that sort of war, lot of resources could be wasted on a war for commercial proposed rather than on other useful things that advanced AI robotics could offer.

As the price of AI would be way too high for the general population AI robotics would be mostly used with research that has a significantly high budget such as NASA. High tech business may also use AI robotics in and around its business to increase work productivity and performance. This would not change much for many people until it becomes integrated in today current world. This technology has the potential to make a lot of current jobs redundant such as from almost every sector such as taxi driver, checkout people at stores, infantry soldiers, babysitting, surgical doctors, assistant jobs, etc. it has the potential to make most jobs from basic tasks and complex task redundant but cannot make research jobs or jobs implementing ideas jobs. Although it would make many jobs related to how the robots are used and how the feature of the robot can be improved.

In my daily life if AI robots are affordable this would improve my transport use and could be used to helping me get from place to place, do general job around the house like cleaning, cooking, laundry, taking out the bins etc. It can also help me with studies by repeating information that it has currently available to it. What would be different for me is that I would not use it in a business environment where other people may be using AI in their daily jobs and around their house. This will affect my family and friends by giving them more time to do whatever they wanted and would make them happier to not do mundane house work.

**Cyber Security**

Cyber crime is any crime that is directed at a computer, and one where a computer or device is integral to the offence. It may be said that crime is a symptom of human culture. Since the first case of a human possessing what we now understand as a 'code of ethics', law has generally existed within human cultures containing groups that collectively form positions of authoritative power. The law exists to enforce abidance of its people to a set of rules considered representative of the group's collective definition of morality. As human culture evolved and morphed over time, the acts considered worthy of punishment grew, and so too were news laws written.

With the creation of the internet, humans entered an era filled with situations requiring a vast array of questions unanswered by previous ways of thinking.

The generality of the term Cybercrime feels representative in itself of answering difficult questions that must be answered when deciding upon ideas of justice in the context of the internet – especially when the one deciding upon the answer is often completely ill-equipped to make a sufficiently educated answer. An observation of recent events surrounding Facebook and their use user metadata provides an example of this.

**Common forms of cybercrime include:**

* phishing: using fake email messages to get personal information from internet users;
* misusing personal information (identity theft);
* hacking: shutting down or misusing websites or computer networks;
* spreading hate and inciting terrorism;
* distributing child pornography;
* grooming: making sexual advances to minors.

(Netherlands Government Website,<https://www.government.nl/topics/cybercrime/forms-of-cybercrime>)

The varied nature of this list shows the use of the term Cybercrime as an umbrella, used to identify not the crime committed, but the location of the crime. Should we also call grass-root propaganda spreading a Cybercrime?

The 'hacker' can be better understood with three different labels:

the White hat works with businesses to locate any possible flaws in their system. Permission has been granted before hand, often allowing for the hacker to test the 'social hacking' vulnerabilities within the business.

The grey hat is similar to the white hat in that their work provides businesses with knowledge of potential threats in their security. A grey hat hacker does not do it for money, and can often break the law when gaining access to confidential systems without permission. Because of this, the morality behind the acts remain as a somewhat controversial topic. For the hacker, exploring vulnerabilities often comes from a position of curiosity, and a chance to challenge their knowledge.

The black hat hacker is the term that identifies all hackers using their knowledge of hacking to commit crimes through the internet. Finding people that commit these crimes is extremely difficult as Cyber crime is usually international in scope. For black hat hackers, committing crime online can be extremely profitable. A large portion of users will not think to backup their files, and when faced with the loss of irreplaceable items, they will simply just pay the money. Because of this, widespread attacks, such as the recent Encryption virus that took the user's files hostage to get money through bitcoin, are extremely profitable when exposed to enough victims.

With new technological change controversies, the general knowledge on the subject of Cybersecurity is growing. Being “secure” is becoming less ambiguous, and business owners have had the chance to witness many examples of failure to change with the times. Because of this, many services exist to provide a legal and rewarding incentive for grey hat hackers to do the right thing with the information they find.

What is the likely impact?

The current shift in understanding and curiosity towards Cybersecurity has allowed for increased discussions surrounding the mainly ignored vulnerabilities within technology used extensively in both private homes and the in the public. Logically, this should eventually result in Governments reevaluating their country's rules and legislation in order to answer the privacy concerns of the population, as well as the security falls capable through business and government.

In 2017, the cost of Cybercrime attacks came to $11.7 million USD; a 23% increase from the previous year. With international access to the internet constantly increasing, the portion of each country's population harnessing ill intent will gain also gain access to this new and highly profitable form of crime.

National infrastructures that require the internet to function are at big risk from capable attackers. Alongside this, many large scale companies that have already incorporated internet connected devices into their functioning, must be sure that their product was built with strong security implemented in its design. The hype that the web of things has caused may see many unaware business owners being sold products that do not meet sufficient security standards, endangering their users and business. The result of an attack on services and products used by society could potentially cause a serious and damaging disruption on functioning society.

The internet of things is predicted to explode in the very near future, as the technology gets better companies begin to understand the capabilities of the technology, as well as the level of cost and labour to do it successfully. In a world with 50 billion connected devices, the plethora of technologies being used would be vast. It is not possible to design a single network that meets the requirements of all devices as all devices differ.

How will this affect you?

There are many things that a person concerned with the issue of Cybercrime can do in order to be better capable of avoiding become the victim of an online criminal. When browsing the internet, one may think to explore the large number of browser Add-Ons available to them, and choose one that is respected and fits their needs. Ad-Blocker removes ads on webpages – most of the time. Such a service is obviously heavily disliked by companies providing adSpace services, however it also does away with a lot of the online content that can potentially give your computer a virus without proper handling.

Any device or electrical purchases made may be checked before buying to see their security capabilities. If in the future I decide to start a business, it would be silly to not consider security aspects at every level of my implementation.

Having the chance to consider the potential disaster that being the victim of Cybercrime, people can begin to realise the severity that being careless online can cause to ones life. I, alongside many others, now take seriously the attempt at maintaining a somewhat secure online presence.

**Autonomous Vehicles**

An autonomous vehicle is any vehicle (most commonly cars) that has the ability to complete certain tasks and actions without the input from a human. Currently autonomous vehicles have a special classification to describe the height of its self-driving abilities, ranging from level 0 to level 5. Starting from level 0 (No Automation), this involves no autonomy, where the driver has full control of the car. The car does not have any ability to maneuver itself or assist the driver in any situation. Level 1(Driver Assistance) is where the car can now control certain functions the car such as either steering, acceleration or braking. Level 2 (Partial Automation) allows the car to be able to steer, accelerate, decelerate and brake, all while the driver does not have his hands on the wheel. Level 3 (Conditional Automation) now allows the car to completely drive in the correct conditions, where driver input is only needed in conditions where the car cannot navigate. Currently, most if not all car manufacturers are at level 3 of automation. Level 4 (High automation) These vehicles have the ability to perform close to all road driving tasks without user input, but do not cover every driving situation. Level 5 (Full automation), at this level the car will be no different to that of a human driver, and will require no human input whatsoever.

Autonomous car are equipped with a multitude of sensors and radars called “LIDAR”. This allows for the vehicle to have a complete perspective of its surroundings, as well as have the ability to be able to perceive aspects of the road such as lane markings, street lights and road signs and evidently other cars. Ultimately this allows for car to be able to safely drive itself on the road, with little to no input from the actual driver. Currently the most common autonomous vehicle technology available for consumer purchase is being developed by car manufacturers such as Tesla, Mercedes and Audi. Currently these cars have the ability to detect up to 5 metres around the car in any direction while traveling at any speed, this allows the car to be able to make safe and cautious decisions when deciding if it is appropriate to complete actions such as changing lanes. Some cars can see up to hundreds of metres ahead, but they still depend on human input in many road conditions.. The technology lets the car control the breaks and speed of the car while traveling in a lane, steer the car, change lanes and self-park, both in perpendicular and parallel. In addition, the driver is not required to even be in the car to be begin operating it, as manufactures such as both Tesla and Audi  have developed technology that allows these cars to automatically start and drive towards the users, as well as park themselves again. In the next 3 years vehicles are expected to be able to reach level 4 automation. Currently the only vehicle close to this is the Google “FireFly” pod car, which can operate without a steering wheel or pedal, but can only travel at a top speed of 25 mph, enabling performance in real world scenarios.

Development of these level 4 vehicles is being made possible through the advancements of LIDAR sensors which are not only close to 50% cheaper in comparison to previous years, but also have been improved in their operation, allowing for increased research and development into autonomous vehicle technology. Level 5 autonomous vehicles are still not available for consumers, and some concept level 5 vehicles show up in auto shows. We are have a long way to go before level 5 vehicles are available to consumers.

Overall, autonomous vehicles will have a positive impact in the world. Primarily, the development of these vehicles would result in a substantial drop in the amount of car accidents that occur across the world due to the partial elimination of human error in these incidents.  Furthermore these vehicles would have the ability to autonomously do things such as collect data for mobile service and technology supplier’s which would overall result in an increase in both research and development in technology and the global economy. Additionally, development of these autonomous vehicles would also soon result in the development of electric vehicles which are superior to petrol vehicles in terms of protecting the environment resulting in overall lower global energy consumption.

Conversely, autonomous vehicles could have a negative impact because of the amount of jobs that could be made redundant due to their use. This would primarily include jobs such as truck and taxi driving, the most common jobs in countries such as the USA. This would also affect people such as mechanics and auto body repair shops due to the significant decrease in car problems and accidents that will occur. Even government jobs such as public transport positions train, bus, V-line and tram drivers will be effects as a driver is no longer needed for their operation.

In our daily lives, autonomous vehicles will affect in us in various ways. Personally, autonomous vehicles would overall improve public transport, a major aspect of daily life, as autonomous vehicles would improve transport planning as data could be collected on road and traffic matters. Additionally, costs of transport would overall decrease due to less money being spent of paying employees who would usually drive public transport services. Furthermore, this could affect certain family member and friends, most notably those who are elder or disabled. Allowing them to be more mobile than they otherwise could have been.

**Blockchains and Cryptocurrency**

Cryptocurrency is a cashless anonymous payment system that can be modified to accommodate internet of things (IOT) applications. For example, Expedia now recognises bitcoin as a new payment option for hotel bookings, but it has the potential to include payment for flights and activities among various other services.

Blockchain, on the other hand, is the actual system cryptocurrency runs on. It is a ledger which is distributed to everyone, everywhere and to all cryptocurrency users. Every time a transaction goes through it goes on a ledger. A ledger can only hold so much memory before a new “block” must be created hence the term “blockchain”. To verify if the transaction has occurred mathematical signatures that need to be mined by “miners” are required. Any user on the blockchain can mine and verify the transaction which is what makes it safe. Blockchain offers an open decentralised database for any transaction that holds value where any member of the community has the ability to verify the transaction hence making it safe. Those that do verify the transaction by mining do get rewarded for doing so.

Verge is an entirely private network based globally (supports widespread mass adoption) and is a flexible and fast way to exchange currencies. Verge encourages low cost transactions to be private, fast and efficient so individuals can send and receive payments however they want and for whatever they choose to buy. This is done through the use of multiple anonymity-based networks such at TOR and I2P which allows the IP addresses of the users to be obfuscated.

Cryptocurrency has a secure method of fraud prevention through use of cryptography. Crypto-coins stay safe because of “keys” which are blocks of information that can be used to make mathematical guarantees about messages in order to confirm that whoever is sending the coins is the actual owner of the coins. Keys are given to an individual once they have created an account for cryptocurrencies. This account is called a “wallet” in which two unique keys are given, private and public. The private key is given the ability to take some data and be able to “sign” it so other users on the blockchain have the ability to verify the signature if they choose to. Private keys cannot be replicated by another user. To be able to see and verify the transaction, the public key is used to see if the signature is valid. Hence, if the public key works that is clear evidence that the coins sent was signed by the private key and was something that was meant to be sent.

In the next three years, it is expected that peer to peer trading will become more common for more uncommon things such as paying off energy trading. Power ledger have collaborated with KEPCO in Japan to establish a direct link between the power ledger and the meter in which the Power ledger platform can access the meters data hence the appropriate billing and trading of coins to pay off that debt will occur accordingly. Power ledger will provide KEPCO access to their platform, so they can be able to monitor electricity transactions between users which enables and incorporates peer to peer trading methods hence giving an opportunity to also generate invoicing, evaluating the trading position of each individual participant and validating the security and accuracy of the platform.

The major technological companies will become more decentralised. Facebook released a statement saying that technology was meant to be a decentralizing force that was for the people and now because of the rise of a small amount of major tech companies and governments using technology to watch their citizens, technology has become a way that centralises power instead of decentralising it. Mike Zuckerberg state that he would look at cryptocurrency and blockchain that take power from centralised systems available and place it back into the people’s hands.

Technology experts also believe that cryptocurrency has the potential to store various kinds of confidential information in different ways such as in a way that another company or even the government would not have any control or access on that information hence be free from its influence and the bias it may bring.

This development will allow anyone around the world that has a mobile phone device and the internet to be able to set up their own wealth or “wallet”. With cryptocurrency all that is needed is a mobile device and an internet connection to be able to create a wallet and it’s completely free. People living in poverty or in low conditions don’t have access to a bank account at all but some of them do have a mobile device and a connection to the internet. Through this, the individual will be able to set up their own “wallet” and be able to trade and use their coins so they can either invest and grow more or to trade for goods and services.

When cryptocurrency got released banks finally had a competitor that they haven’t had for centuries. An opponent that will be able to challenge their ways and regulations placing a centralised form of government to something that is decentralised and placed in the people’s hands. Both of which can do the same thing, build wealth. When crypto became more popular the banks were forced to upgrade their systems and protocols, so they can keep their customers hence Pay ID was introduced.

As an investor for bitcoin amongst various other cryptocurrencies, blockchain technology is an opportunity for me to gain some financial gain. Cryptocurrency allows me a way to increase my current wealth as the prices for each individual coin regularly fluctuate which allows me to keep trading and build my wealth. The crypto coins that I would have allows me to potentially trade them for assorted items in the securely and in some cases anonymously. This is different to me as monetary prices don’t fluctuate as much as cryptocurrency does hence allowing me to make a greater profit.

With cryptocurrency I would be able to directly transfer money almost instantaneously between people hence making it extremely efficient. International money transfer takes approximately 5 business days to be able to transfer money in banks as it has multiple steps that need to be gone through before the money reaches the recipient. However, the bitcoin protocol runs over the internet hence the recipient will receive your money almost instantly.

Project Ideas

**Description**

Similar to apps like *Messenger* and *Tinder*, *GigAtlas* will require the user to give access to their Facebook page by logging in. In doing so, the user gives *GigAtlas* access all metadata for events attending and/or invited to for the user and their Facebook friends.

The home screen of the application will not be dissimilar to the application *Uber*, in that the user will be immediately greeted by a map of their current location showing their location at the centre. The screen will initially show the map with a 5km radius around the user. On the bottom-right corner of the map side is a function allowing the user to zoom in and out, thus revealing apps that fall inside or outside of the range shown (when closed, the chosen level of zoom will be saved and used again when the app is reopened).

Within a drop down menu, a calendar function will allow the user to choose which dates they wish to view events for. The user will be able to create a list of 'tags' that they can attach to an event. This will be useful for users interested in a variety of musical genres, as they will be given the option to view a list of events sharing the same tag.

When the user clicks on an event, they will be shown the event information such as the time, promoter and description. This will not open the Facebook app, but be shown within the original app. Added to the event information will be a section that provides links to external sites, such as an artist's website or any locations in which the user may stream their music. Each event will have a share option, allowing to user to send information of the event through a range of other services (such as text message, Messenger, Email etc.).

The user can filter which events they're shown based on 'Attending', 'Interested in' and invitations they have not yet responded to. Similar to the feature available in Facebook, the user will be able to view a refined selection of events popular within their social circle. However, unlike Facebook, *GigAtlas* will display this as a map.

**Project challenges**

**Privacy**

With the current climate surrounding the privacy of individuals on the internet, it should be acknowledged that a service of this nature may face questioning over its use of user’s personal data. On May 25th the European Union will launch the General Data Protection Regulation. This will see many companies not willing to change to meet new regulation standards faced with large fines. Such rules apply to all companies within the EU, and all companies outside of the EU that have EU users/customers or use network infrastructure within the EU. It would therefore be logical to adhere to said standards in order to maximize the quantity of potential users.

**Location detection**

With location detection you want to make sure that the user is in the right place, and that events around fall within the correct kilometre distance selected by the user.

**Storage space**

The amount of metadata used required for the functioning of this application could potentially be large, in which case storage space would end up being a bottleneck. With increased storage requirements comes increased cost. Funding would therefore also need to be found.

**Cluttered functionality**Many features within the project include calendar functions, ‘tags’ features, using a map-oriented format for events, sharing social events to users’ social circle, viewing the events filters based on ‘Attending’ and ‘Interested In’. With the great number of features within the project, the functionality of the application may clutter within the user interface of the app, and hence, is another challenge encountered.

**Compatibility with mobile devices**

There may be issues with the compatibility with users who use older models of mobile devices, as the mobile software may not allow the data space to run within the mobile device.

Group Reflection

**Group Reflection**

Overall, the group agrees that completion of the assignment went particularly smoothly throughout the preceding weeks. Unanimously, the group agreed that a primary thing that went well with the assignment was how focused each member in the group was with their assigned tasks. In addition, each group member was able to provide their information in a timely manner while still holding utmost quality. This allowed the group to be able to manage their time with the assignment effectively, allowing for each task to be completed to the best of one’s ability. Furthermore, another aspect which went well was each member’s initiative to help out one another with their given tasks when dire assistance was required, this ensured that the assignment was kept on track and we able to complete each task efficiently. The group agrees that aspects which could have been improved would have to be communication between one another while not together during class. Due to personal issues the group could not always collectively meet, which in turn did result in small hiccups which were promptly corrected through communication between one another using social media. One thing that the group found surprising was how well each team member was able to interact with other and get along personally and professionally, despite all only meeting each other for the first time in the course. This ensured that no group members was intimidated to talk or interact with one another, resulting in the successful completion of the assignment. The one thing we have learned about working in a group situation, is just how efficiently assignments such as “IT World” can be completed if everyone in the group is focused and a clear understanding of their task at hand. We have learnt that group assignments can provide a more enjoyable experience when it comes to having to complete assignments due to the support and assistance you can receive from your team members. Overall the Github log which we currently have only somewhat fully reflects how much work the group did to complete the assignment. A majority of the work was completed individually without Github, in addition, at the current point in time not all members had a full understanding on how to use Github, thus it was able to be utilised to its full potential. However, even with our limited knowledge, we were still able to somewhat effectively use the features it provides and successfully complete our assignment.

Angela:

Predominantly, all of the team members of the Wallflower Inc team has done exceptionally well with their divided tasks within this second assignment. The group members were all self-driven to work hard towards completing this assignment, as their input within each section was efficiently done with great detail. Although it was difficult to all meet together at meetings outside of class hours, due to other commitments like work or clashes with class times, it was understandable since the effort and hardworking energy was seen from each member. One thing that could also be improved was the constant communication or just having a few updates from each member, although having other commitments is understandable, it would be more efficient to know where each member was in their current state of divided work during this assignment. One surprising aspect that was encountered when working with this team was how supportive and positive the team was, since this team did not encounter much conflict within the time frame of working on this assignment. The one thing I have learnt about groups is how difficult but efficient it is to share and team up together, as there are many team members that can help me whenever I am having difficulty with a task.

Lewis:

Our team worked well, particularly in distributing responsibilities early on. We used class time well in that it was used effectively in order to work out how we would complete the project. It was great that each member had a preference immediately for certain types of the project workload, and that these preferences fit harmoniously and without challenges. A problem of attendance did seem to be a recurring issue, however it did not reach a point of becoming a burden on the project at hand. Telephone communication has remained throughout the project time, meaning none of the members of the group were ever confused as to the amount of work still required. When face to face, our group was no problems at beginning start on the work at hand. When github arose, I discovered that my group members had no experience using it yet, so we had to spend a part of the class becoming familiar with it. No one seemed disinterested or unengaged during this session, and they left the class now aware of github's capabilities.

Shams:

The Wallflower Inc team members have worked really well on this assignment, as the project never felt stagnant. Discussions the subjects covered offered very refreshing group interactions. The group did struggle making contact at certain points, but it was quickly bounced back from. The only thing I believe that required improvement was better contact between the group members when we were not able to see each other, despite this, we were still able to work very effectively at completing the assignment. Personally, I was genuinely surprised at how prompt and helpful my team mates were when I required assistance with my given task. This ensured that I did not fall behind our set schedule and was able to complete my duties on time. Through completion of this assignment, I have learnt that groups are probably one of more the more engaging methods of completing an assignment as you are not the only person who carries the burden and can receive assistance even easier.

Joseph:

Overall, the group was very proficient in completing the second assignment. Things that went well were that the group was very diligent in completing the assigned tasks that we were all given. Furthermore, we were all efficient in completing these tasks while being able to handle feedback on aspects of our work that might of needed improving. Group members were also quick and willing to take the initiative in certain aspects of the assignment to get certain tasks completed in time. The only thing that could have been improved would be improved communication between teammates out of class times. The one thing that was surprising was how easily and efficiently the group worked together in completing the assignment. One thing that I have learned about groups is how proficiently assignments can be completed when all group member efficiently contribute to their tasks at hand. This is evident through things such as Github log which indicate that most members effectively contributing to the assignment.

James:

The group was able to work well together on completing the assignment. The group members were quick to take initiative in completing task that need completing and given tasks were done in a timely matter. The group also helped anyone with a problem that a member might have and worked together to fix any problem that the member might have had. However, communication could have been improved outside of class and organisation of task to be completed could have done better. When the group was communicating face to face, our group could tackle the issues from the assignment efficiently.

Harman:

Our group was able to work very efficiently on completing this second assignment. Each member of the team was able to complete their responsible part of the assignment in great detail, including from discussing and obtaining honest feedback from other group members. One aspect that could have been better for the next assignment was the extra communication in regards to this assignment, as the sections of the assignment could have been thoroughly completed with greater detail and quality of work with improved time management. One thing that surprised me was the great amount of feedback and support that has been relayed back to me whenever I asked for critique about my part of the assignment. The one thing I learnt about groups is that besides having team members work together well and efficiently, but the friendship between the team is also important to reduce conflicts within the team.