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Assignment 2:

The IT World

Presented by: Group 14

I declare that in submitting all work for this assessment I have read, understood and agree to the content and expectations of the Assessment declaration.

**Table of contents**

1/ Team Profile 3

a/ Team name 3

b/ Personal Information 3

c/ Team profile 5

d/ Ideal Jobs 6

2/ Tools 6

3/ IT Work 6

4/ IT Technologies 11

a/ Artificial Intelligence and Machine Learning 11

b/ Cybersecurity and Privacy 14

c/ Blockchain and Cryptocurrencies 17

d/ Cloud Computing 21

5/ Project Ideas 24

6/ Feedback 25

7/ Reference list 29

**1/ Team Profile**

Team name: Group 14

Personal information:

Name: Nguyen Duc Quang

Student number: s3927198

Email: [gmquangducnguyen@gmail.com](mailto:gmquangducnguyen@gmail.com)

Hi, I’m Quang and I am originally from Vietnam, and I have been living here with my mom, dad and older brother since I was born. I am currently fluent in 2 languages including English and Vietnamese, but I also know a little bit German. I have just finished high school and I’m heading into my college years. I have been interested in programming and IT in general since I was in grade 9 but have not got the chance to really try it. So now is the time for me to try it out and experience new things, especially data science because that is what I want to work as in the future. I like playing sports a lot in my free time, such as soccer, basketball, and ping pong. Also, a little fun fact about me is that I love eating Oreos with no cream.

Name: Jang Soohyuk

Student number: s3928379

Email: [s3928179@rmit.edu.vn](mailto:s3928179@rmit.edu.vn) and [soohyukjang@gmail.com](mailto:soohyukjang@gmail.com)

Hi, my name is Jang Soohyuk. I graduated international school in HCMC few months ago, and I think I have a special relationship with Vietnam as this is my second experience in Vietnam. Because of my father’s business, my family decided to move to Vietnam in 2013. I studied in international school in Year 4 until 2015. After I move back to Korea, I lived with a normal life for four years. In 2019, I came back to Vietnam as I wanted to experience a different life with other friends, so I decided to return to the same school which I studied in 2013. It was quite challenge to me when I return to Vietnam as I was not familiar with the education in the international school. To overcome myself, I tried my best to improve my English skills and spend lots of time to learn English vocabularies and grammar. In the result of 12 years of education, I was able to speak Korean, English, and a bit of Vietnamese. After I graduated high school, I decided to go on to undergraduate education that can learn about Information Technology in Vietnam which is RMIT. My hobby is to play badminton and look for news related to the IT equipment such as smart watch, TV, smartphones.

Name: Bui Minh Khoi

Student number: s3929015

Email: [s3929015@rmit.edu.vn](mailto:s3929015@rmit.edu.vn)

I was born and raised in Ho Chi Minh city. I was just a normal student for the 12 years of my study, my grade was never too low nor to high and the only language that I have learnt is English. I consider myself as an energetic person and I tend to put other people before myself in both work and life. Also, I love to make new friend along my journey and build new relationships. As for hobby, I’m really into video game as it has been a part of me since my childhood.

Name: Nguyen Minh Nguyen

Student number: s3927220

Email: [s3927220@rmit.edu.vn](mailto:s3927220@rmit.edu.vn)

My name is Nguyen Minh Nguyen, and my student number is s3927220 and I live in Ho Chi Minh city. This is my first semester at RMIT university. Because of this, I’m really looking forward to be able to learn new things and have new experience at this school in the next 4 years. I love to learn new things related to computer, in both hardware and software, and it would be even better if I can apply what I learn to real-world situation. I also usually go to the YouTube media platform to watch videos and play badminton whenever possible. I’m currently a member of Group 14, and since I have had no IT experience before in working in these kinds of projects, so I’m both nervous and excited about the final result. However, I personally think that this is a great opportunity to learn new things and to be at first step towards my future career.

Team profile:

Test results of members:

Nguyen Minh Nguyen:

-Myers-Briggs Test results: logistician

-Online learning style test: auditory learner

-Big five personality test: openness 33%, Conscientiousness 48 %, extraversion 19%, agreeableness 67%, neuroticism 56%.

Nguyen Duc Quang:

*Creativity test:* a ’work in progress’

*Myers-Brigg’s test: Turbulent Virtuoso*

*Learning style test:* visual learner

Jang Soohyuk:

Myers Briggs personality test: Turbulent Protagonist

Big five personality test: extraversion: 88%, openness: 83%, neuroticism: 80%, conscientiousness: 88%, agreeableness: 82%;

Truity: extraverted: 67%, intuition: 68%, feeling: 56%, judging: 66%,

Bui Minh Khoi:

Myers–Briggs personality test: the Developers

Online learning test: visual learner

Creativity test: a ‘work in progress’

After forming this team, looking at everybody’s test results, I recognized that Nguyen and I are introverts, and that we are suitable for technical work. Therefore, the team has decided that we will be in charge of making the website. Khoi is outgoing and extroverted, so he will take care of making the arrangement and conducting the IT professional interview. As for Jang, he will be the one who writes the report of our project idea.

Ideal jobs:

All four members of our team has different ideal jobs and expectations for the future. Jang wants to be a web developer, Khoi wants to be a blockchain developer, Nguyen wants to be a simulation software engineer and I want to be a data analyst. The apparent common thing among our dream job is that it is all IT related, technical and requires a lot of professional knowledge from corresponding fields. Nguyen and I both have to know the Python language and machine learning for our jobs. Apart from that, we don’t have anything else in common. Khoi needs to know Solidity and writing DApps, while Jang needs to know Vue.js, React.js, JavaScript, HTML, CSS for programming the frontend.

**2/ Tools**

Github link to group’s artifact: <https://github.com/KhoiiiBuiii/RMIT-GROUP-project>

Link to group’s website: https://nguyennguyen205.github.io/main.html

Link to website’s source code: https://github.com/NguyenNguyen205/NguyenNguyen205.github.io

Looking at the commit history of our team and compare it to the actual work, I can see that it has reflected how our team work and the tasks distributed to each member of the team. Though the actual process of how we work isn’t as clearly as it should be, and there is still a lot of room for improvement, but overall, I think that our team has successfully finish the assignment as best as we could.

**3/ IT Work**

Kbui: Ok,let’s begin

Kbui: Hi Mr, before we start, please introduce yourself.

Mr Tú:- My name is Vo Van Minh Tu and now I’m currently in charge of the company’s IT system of TTT corporation

* The size of the company is almost a corporation, with many subsidiaries and has about 1500 employees
* In which, there are 10 employees of the IT department

Kbui: Ok, I want to ask you

What kind of work is done by the IT professional in your field?

Mr Tu: Well, with the position of IT manager that I’m working on, my working day will also start like other employees

* The first whing I need to do is check mail, to check if the old jobs are completed or not and the jobs that arise that day.
* I spend about 1 hour reading the mail and then I will arrange the work to bring the information to the relevant departments, to mobilize the staff below to handle the assigned tasks.
* After that, I will check all information and services of the system
* The rest of the time, I will research documents and processes, how to coordinate to improve the work of it as well as related department. And, because my work is to manage so I don’t go into much detail.

Kbui: Thank you for the answer, the next question that I want to ask you is what kinds of people does the IT professional interact with? Are they other IT professionals? Clients? Investors? The general public?

Mr Tu: For my working environment, the nearest contact is thought my departmental staff and the department related to my work. I always in contact almost all other department.

guest: The Company works on the IT progress a lot, thus, it will relate to plenty of parts else,

guest: And they all envolve IT from factories to offices and to the constructions.

guest: The “relations” which are being said are by email, phone calls, online chats or meetings such as Zoom, Team

guest: Mentioning the higher tier, they are the Providers, for instances, the soft/hardware solutions, the supporting-supervisor cooperation….

guest: and the supporting-supervisor cooperation are the other IT services, they perhaps are the keen on solving method, some are the other cooperators of us, we share our new intel about the market or brand-new technologies

MC: Thanks for sharing, and another question which I want to ask is “where, when you usually spend most of your time to work on?”

Guess: Usually, the IT have Flexible working environment and no obligation to sit in one place, unless there are some IT position that involve support and help desk. Then they have to sit at the office to directly help the staff in that office. For example, my corporation have two office and two factory and usually there are an IT department that sit at the office to support directly on fixing any trouble or problem that the customer have. And, some cases they have remote support like support remote down to the factory or to the working site.

* Or some other position such as the programming department or IT system management department. In reality, they don’t have to sit at work but can work remotely at home or they can sit at a coffee shop because it’s not necessary to work at the office.
* And because of the flexible working environment, the working time is also very flexible and so they aren’t obligatory to sit from 8.AM to 5.PM except the other position that I have mention above like the help desk position. Because the position require regularly present to which if anyone have a problem they can call in they working time and other position can work with a flexible time and have no obligatory about the time as long as the giving mission or plan is finish on time.

Kbui : Thank you Mr., the next question I want to ask is what aspect of their position is most challenging?

Mr Tu: For me the challenging part of my work is the ability to communicate with other departments to let them know that we are helping them. Because when they come into any problem most of the time they doesn’t know the specialized vocabulary, and because we are the IT professional we will used a lot of the specialized vocabulary to explain to them and sometime they don’t understand and doesn’t share that out a lot.

* Because of that the challenging thing of an IT professional is went there is a problem we need to help the customer understand the problem they are facing and allow them to share with us the difficulty that they have. Which mean we have to relieve them of anxiety. Because sometimes they can encounter some problem when using the computer or the software isn’t working that will make them worry the file may got lost or not having the computer to work. From that we have to do our best to explain and support them to be able to fix the problem.
* The next Challenging part is how we behave with another department, we must behave well and did the right thing. We behave well but always stay on our rule.
* my rule is to keep information and data confidential because sometimes users won't understand the problem. In the VN market, companies in Vietnam often have a problem that they all use crack software and that's a habit since school, it's formed a long time ago. And they default to use it as long as they have it.

But for businesses, I need to make it clear that we will not accept crack software

For those who have such requirements, the solution must be to buy or direct them to use alternative software, for example. And that, we have to explain to them and guide them to use.

If we give another solution, we will have to guide them to use it

Well, that's one of the challenges we have to convince users

And the third difficulty is that our information technology background is very wide, it includes many subjects, from systems to security to standard programming.

and the third difficult point is that our information technology background is very wide, it includes many subjects, from systems to security to standard counting programming. IT is like the medical profession, there are also many different doctors such as dentistry, cosmetology, musculoskeletal, ... a lot of subjects

As an IT, I must have a brief grasp of all subjects, for example, my major is security systems, I must also know the other subjects.

then my IT staff will have to learn more and understand more, not just specialize in any one subject

With companies and large multinational corporations, they will have a very clear job assignment, for example, when I recruit you for the position of "Security Specialist", you only focus on that. In Vietnam, IT staff often hold many positions, in small companies, IT will often do photoshop, marketing, design, printer repair, computer repair, sever maintenance, network maintenance and phone exchange maintenance and many more. While in bigger company the phone exchange maintenance is the work of the team of electricians or telecommunications engineer not IT professional. But in a VietNam company is will all inclusive. Therefore it’s also the challenging thing that the VietNam IT professional have to understand and learn a lot about all the problem they may face. These are the 3 main challenging part that I have summary.

kbui:

And this is my last question for you

As a student majoring in IT

Do you have any advice or useful types for those who are oriented in this major?

Mr. Tu:

Thank you for asking this question, this is a good and practical question

The IT industry is quite attractive to young people today, the job opportunities are quite high, but that is also the reason why you are confused about whether to choose IT. Like I have shared above the third challenging part that is the work of an IT professional will have a lot of subjects. Therefore, you should challenge yourself in many basic subjects. For example, the basic subject that IT have split into two ways: One is about system management, the second is one is about coding which mean that you have to code the software or a website. And you should allow yourself in those two environments from one to two month or half a year to see what fit you the most. And the fastest way to try is to apply for internships in companies that have a strong IT team that have many spots for you to try and from there it will allow you to see the actual work of an IT professional and how the actual work will be like.

Maybe the thing that go thought our mind is like this but in reality, the work in a corporation is totally different.

* So, firstly is we apply for internships in these company. For example, the first year the main thing that university teach haven’t focus much on IT so you can spend 1 month, 3 month or 6-month internship at a company that have a strong IT team. Like in our corporation, we have a lot of subjects that you can try and see how each of the IT department work daily and find which fit yourself and you can strive for that path. That is how we recognize the right ways for we to go.
* Secondly, I recommend you attend as much seminar as you can offline or online both works. For now, because of the pandemic, you can’t go to the seminar about the IT major or technology. If possible, you should register free seminar to learn and listen from the professional which allow you to grasp the technique and the trend on how the IT industry is going.

Those are the only two advice that I have.

**4/ IT Technologies**

***a/ Artificial Intelligence and Machine Learning***

In this session, I’m going to report on one of the most well-known and impactful technology in these days, which is Artificial intelligence and machine learning. This report will contain three parts, which includes the current ability of AI, the impact of AI on the community, and the impact of AI on personal view.

Before going into details, we will look through some basic terms. First, what is Artificial Intelligence and Machine Learning. Artificial Intelligence, or AI for short, is a field of computer science which involves on how creating efficient model to do specific task that would require a specific code for specific task, like image recognition, playing chess. Machine learning, a sub field of AI, is about creating model and algorithm for computers to learn and make predictions base on the train data. The ultimate goal of AI and Machine Learning is to create computers that are capable of doing complex task in minimal runtime, such as simulating fluid physics, writing essay, or analyzing the spread of a virus in pandemic.

Firstly, AI is arguably one of the most used technologies. On the market, it is one of the fastest growing fields. Fortune Business Insights (2021) have stated that the AI market has the value of 35.92 billion USD in 2020, and expecting to hit 360.36 Billion USD by 2028, with investment from both large and small companies and cooperates. Its wide application may also be a contribution factor in growth, from the well-known usage like image recognition, face recognition on smartphones, pattern predicting for recommended videos on Tiktok, to the less popular like cancer detection in hospital, generating pictures, or writing full essay from a simple text. The most popular programming language is currently Python (TIOBE 2021), and Python is also one of the most powerful programming language for AI and data model, which could be a factor in contributing to the popularity of AI. Nowadays, AI is popular in used and easy to implement thanks to language like Python and library like Tensorflow. In fact, it is so easy to used compare to the past that the race of using AI in the market really comes down to whoever have better data in both quality and quantity. The more quality data fetch to an AI model, the better the model will become, so companies try to acquire as much data as possible to be the leading company, stated by Ryszard Szopa (2019).

Thanks to the rapid growth of technology, AI has become more powerful than ever before. In 2016, AlphaGo, a product of Deepmind, has successfully defeated the world champion in the game Go, which is said to be one of the most complicated games ever made. Beside logic and mathematics, Ai can also create art work, like the art “My son and me” created by Artistic style transfer, which base on deep learning (Ryszard Szopa, 2019). This artwork poses a series of controversial and worries among many people in the community. Even the building blocks of AI can now be used by AI, for example, like programming languages. Github has recently release the beta of Copilot, a software that can code with only a few lines of comments. This could revolutionize how software are created, and even well-known IT youtubers like Fireship (2021) think that this could potentially replace developers very soon in the future. This tool is powered by GPT-3, the AI model of OpenAI, which also powers Copilot. It is so powerful that it can recreate an entire essay in just a minute, with surprising result and hard to differentiate to a human writing, though Will Douglas Heaven (2021) have stated that this model works on the input data and how to arrange it rather than actually being ‘smart’.

It’s hard to predict the future, even in a 3-year time, since technology has become so advanced that it’s hard to predict the next trending topic or where will IT go next. In the fields of AI though, the ultimate goal is to create a general-purpose AI, though it’s still relatively far from achieving that (Russel 2021). This is the kind of AI that can learn any intricate task and master it just as human does or even much better. Although it is unknown to whether we can create this kind of AI, but we will definitely get a more powerful AI than today standard, like writing better paragraph, can simulate physics more realistic, or create a better VR, AR experiences for the users.

Of course, all of these advancements would not possible without required technologies. And to get AI better, than it is a must that these technologies would also have to be better overtime. As have mentioned before, languages like Python, C++ or library like TensorFlow helps to develop AI, and technology like Big data to help collect data for advancing the model, cloud computing to provide the necessary power to compute all the AI algorithms. All of this has led to the birth of machine learning, or deep learning. And if these fields want to develop further, then personally, I think that all of these tools and technologies must advance with it, or even there could be a birth of entirely new technologies.

Secondly, the likely effect on the society will vary, with both good and bad impact. One of the best features about AI is that it will help to reduce repetitive work, improve efficiency of development in rapid time, which will result in the cut of cost and finance, enhance users’ experiences. Jane Collingwood (2021) has written an article about the possibility of using machine learning to aid in detecting lung cancer in health care, which would result in better prediction and saving time and cost. However, there are concerns with these benefits. One of which is that AI is notoriously known for its unpredictability, which could have fatal real-world consequence if not controlled properly. The Uber car accident, which had led to fatal accident, is just one of many examples for that (Rory 2020).

Another thing that worth mentioning is that it is very easy to trick people to trust something. An experiment in which a cute decorated AI robot can easily pass between people to get into other areas. Imagine what happened if that robot can dangerous computer virus or steal sensitive information without being noticed (Kacie Kinzer 2009). The effect will most likely on every person in the world. Beside mentioned benefits, AI will give rise to automation, which could reduce cost as have said, but may also take away jobs. Not only that, as AI get more advance, it may could replace more advanced job, like landing aircrafts, making prediction in finance, coding complex programs, since at the end, complicated works are just a collection of simple, repetitive tasks, told by Kurzgesagt – In a Nutshell (2017).

The impact may vary from person to person, but for me personally, I think that it has already happened without my attention. AI has been used to suggest videos base on my past experiences on YouTube platform. I also used deep learning algorithm in my study, specifically in translating text to Vietnamese and in writing essay to detect minor in grammar and vocabulary. After all, as I get to work in more professional environment in university, the appearance of AI can be more clearly visible to me. All of these tools are generally helpful and have positive impact to my study and my overall daily life. Personally, I think that in the future, I will use even more AI powered tools to not only aid in my study, but also in career as well. This could be an opportunity for me, but I also have some worries if my job will be taken away as a result intricate and powerful AI. But in the end, I don’t think I should worry that much, and rather focusing on what I can do and how would I like to become.

Beside myself, the influence these technologies on my friends and family may well be as significant, or even greater, compare to myself. Majority of my friends already used AI tools like Grammarly, regardless of what major they are in, like logistics, finance, engineer, and so on, with positive reviews and feedbacks about the tools. Even my parents, who are not so interested in technologies or online shopping. However, during the pandemic, when almost everything was moved to online, and thanks to recommended algorithms, they have said that their experiences are much better than they have expected. In conclusion, whoever a person be or whatever him or her do, AI will always be there, and the impact will just grow larger from time to time, and only time will time if it’s going to be a good idea or not.

**b/ Cybersecurity and Privacy**

In this report, I’m going to discover what actual cybersecurity and privacy are, and their application. Cybersecurity and privacy are becoming important concepts that we need to consider nowadays as people prefer to use devices and IoTs in order to enhance the quality of their lives. The term cyber security refers to the application of technologies, processes, and controls to protect systems, networks, programs, devices, and data from cybercrimes [1]. There are lots of types of cybersecurity such as application security, network security, and information security. Application security is to identify the weakness in the application code and fix it to make sure the application works well without any bug or crash. Network security is to keep the network safe from unauthorized access by controlling firewalls, VPNs, or complex identification that can reduce cybercrime. Information security is protection that keeps data safe from unauthorized access or manipulation in the transmission process between machines. The term privacy refers to the right of the user's information to be controlled or observed by third parties.

Privacy in Information Technology is the right to have some control over how our personal information is collected and used [2]. This means that we can control our personal data and anyone cannot access to it without the user’s consent. However, this ambiguous to distinguish whether a certain action violates someone’s privacy or not, and this concern is becoming a social-ethical issue within society. As we are using more and more devices that are connected to the internet, the proportion of devices taking a huge role in our lives is increasing. Lots of cybercrimes occur in this situation as people are not aware of the security and they easily expose their personal information so that anonymous people might manipulate the user's data or observe their life pattern in this process. Besides, Identity theft is now the fastest growing crime in America which people regardless of age, gender, race can be the target of cybercrime [3]. In society, cybersecurity and privacy can be used as a tool of a decision whether it is ethical or legal. People can look for whether their data is stored in a safe without anyone’s access, or whether the programs, network, applications work well without any crashes or bugs. The most effective inventions that let people know about cybersecurity and privacy are the internet and IoTs.

By using the internet, people can benefit from synced data through all devices that can provide convenience. Besides, the user can control the devices even though they are not at home by using programs that can control connected devices through the internet that can save lots of resources, or they can utilize it more effectively such as turning the light on when they arrive at home. Furthermore, IoTs devices not only connect to the internet and interact with the user, but also collect the data and analyze it which is the use of machine learning. Based on the data collected, devices including IoTs will decide for a user that can be used in many ways such as medical diagnosis, and image recognition which resembles what human does.

Cybersecurity and privacy can be considered abstract concepts, but these ideas potentially affected people in both good and bad ways. These concepts enabled people to be aware of what internet privacy is and what they need to do in order to keep their data safe which can prevent cybercrime and data leaks. However, as people prefer to keep the information or any property safe, it might require additional authentication while in progress which will decrease the productivity in the data transferring process. Nowadays, these topics have created some jobs related to security and privacy. For example, in Vietnam, there is a job called Cyber Security Manager that performs technical security assessments and attack simulations on multiple application platforms [4]. In addition, there is a data privacy manager that trains the staff about security policies, contracts with third-party programs to make sure it is trustworthy and secure [5]. As many jobs are being created nowadays, most of the employees that work on computers will be largely affected. In our lives, there are some ethical problems whether the boss of the company can monitor what employees are doing. This can be both right and wrong as employers should know what employees are doing. This doesn’t sound wrong, but on the other hand, employees might feel they are being observed and controlled by employers and their working performances will be decreased. We cannot say who is right and wrong, so these types of social-ethical problems are occurring in our society as the working condition is developing and people are starting to use devices that are connected to each other.

Based on my experience, the terms cybersecurity and privacy inspired me to look around and see how I deal with the devices and control my data. In my home country, our family used IP cameras for observing pets, and to protect a house from thieves. Also, there was a plug that connected to the internet so if I want to turn on the TV for my pet, then I easily click the button in the application and turn on the TV without pressing the button on the remote controller at home. This helped me to think about what action I need to take to protect my IoT devices because if someone accesses my IP camera, then a terrible situation will occur in which the privacy of all families is exposed through it that nobody wants. Even though actions such as not to use the same password on many different websites and trying not to open emails from strangers or not to click any suspicious links to prevent any unauthorized access are small, they will hugely protect us from cybercrime. Usually, our parents are not don’t know which link to click, or they prefer to use the same password to easily memorize. However, after I realize that what would happen if our devices were controlled by other people or information is stolen, so I suggest they not do that to prevent cybercrime.

***c/ Blockchain and Cryptocurrencies***

**What does is do?**

Blockchain is a new decentralized architecture and distributed computing paradigm that underpins Bitcoin and other cryptocurrencies, and it has recently piqued the interest of governments, financial institutions, high-tech firms, and capital markets. Decentralization, time-series data, collaborative maintenance, programmability, and security are among the fundamental benefits of blockchain, making it particularly ideal for building a programmable monetary system, financial system, and even the macroscopic social system. We offered a fundamental model of the blockchain system in this article, as well as explored the concepts, technologies, methodologies, and applications of blockchain and the linked Bitcoin systems. We also spoke about smart contracts and their applications, as well as the future trends of blockchain-enabled mirrored societies. The purpose of this work is to provide useful recommendations and a reference for future research endeavors. Also, some of the thing that blockchain can be done now are: Secure sharing of medical data, NFT marketplace like cryptocurrencies which allow people to directly transact with one another without having to trust third party like banks and many more.

The year 2021 will go down in history as a watershed moment for cryptocurrencies. But what comes next?

“While [Bitcoin’s price has seen several drops](https://time.com/nextadvisor/investing/cryptocurrency/bitcoin-crash-continues/) since then, its latest new record and current price is an impressive feat considering just a year ago the currency hovered around $15,000 per coin. Ethereum — the next most popular crypto — notched another new all-time high of its own when it went above $4,800 last month” (Ryan Haar,2021), as well as increased institutional buy-in from prominent corporations. Based on the Hypebeast article, Ethereum, currently sitting as the second-largest cryptocurrency by market value, ETH saw an increase of 3.5% earlier today to reach an all-time high of $4,403.93 USD on October, surpassing its previous record of $4,379.62 USD back in May.

Meanwhile, people's interest in cryptocurrency has soared this year, making it a hot issue not just among investors but also in popular culture, owing to everyone from long-time investors like Elon Musk to that kid from your high school on Facebook. We may guess on what value cryptocurrencies will have for investors in the future months and years (and many will), but the truth is that it is still a new and speculative investment with no history to make forecasts on. No of what a particular expert believes or says, no one truly knows. That is why it is critical to only invest what you are willing to lose and to stick to more traditional assets for long-term wealth creation.

Also, the potential of blockchain technology are essentially limitless, and recent advancements have brought us one step closer to a decentralized, trustless internet, transaction transparency, and other benefits. Here are a few examples of how blockchain will affect the future:

-**Digital identity:** Passwords and authentication questions are now used to prove who we are online. Blockchain has the potential to replace this system with a digital identity that is safe, secure, and simple to administer.

Rather of establishing your identification by recalling some personal, arbitrary piece of information that may be guessed or stolen, your digital identity is based on a uniquely random set of numbers provided to each user on a blockchain network.

This implies that your identity cannot be hacked or modified without access to your private key, making it far more dependable than our existing system. In fact, the National Institute of Standards and Technology (NIST) is already looking into how blockchain may aid in the protection of digital identities.

-**NFTs And Non-Fungible Tokens:** In an ever-changing world, cryptocurrencies are one of the most significant use cases for blockchain right now, and it is likely to stay so for some time. However, a more interesting future in blockchain technology is emerging non-fungible tokens (NFTs).

NFTs are a game-changing new way to acquire and trade digital assets that reflect real-world goods. All NFTs are one-of-a-kind and cannot be replaced or swapped; they may only be purchased, sold, traded, or given away by the asset's original owner/creator.

NFTs have the potential to fuel a new generation of digital treasures, ranging from rare artwork to one-of-a-kind footwear and accessories. They might also be employed in video games or other virtual environments to replace goods.

The applications for NFTs are limitless, and these tokens will almost certainly have a huge influence on the future of digital ownership. Furthermore, in the next years, NFTs will most likely be used to purchase everything from artwork to automobiles, said in an article posted by Automotive News Canada.

According to NonFungible.com, sales of NFTs reached $292 million in the previous week.

With NFT sales on the rise, NonFungible has compiled a list of the top five best-selling NFT collections in the last week (Nonfungible,2021):

5. Decentraland

7-Day Sales Volume: $6.6 million

Number of 7-Day Sales: 339

Average Sale: $19,469

4. Art Blocks

7-Day Sales Volume: $13.2 million

Number of 7-Day Sales: 2,737

Average Sale: $4,822

3. CryptoPunks

7-Day Sales Volume: $17.5 million

Number of 7-Day Sales: 38

Average Sale: $460,526

2. The Sandbox

7-Day Sales Volume: $33.1 million

Number of 7-Day Sales: 2,182

Average Sale: $15,169

1. Bored Ape Yacht Club

7-Day Sales Volume: $52.2 million

Number of 7-Day Sales: 695

Average Sale: $75,107

**What is the likely impact?**

Blockchain technology has the ability to change all aspects of recordkeeping, including how transactions are originated, processed, approved, recorded, and reported. Back-office functions like as financial reporting and tax preparation may be impacted by changes in company models and procedures. As for cryptocurrency, it offers several benefits to enterprises all around the world. It has made it simpler for enterprises to expand into worldwide markets rather than limiting themselves to domestic markets. This has allowed vendors to build connections and trust with markets that were previously unavailable, which has been excellent for developing countries. Cryptocurrency has not just shaken the banking world. It is also changing the cultural landscape, since blockchain technology has changed conceptions such as ownership. Because data on a blockchain cannot be tampered with, deleted, or faked, people can "possess" a certain set of data. Both of blockchain and cryptocurrency with affected almost everyone based

On the impact that it brings to the world on different jobs and career like:

-**Education**: Blockchain technology is transforming the storage of certificates and student credentials in educational institutions. With blockchain technology, there is no need for a middleman in certifying degrees, certificates, diplomas, and other academic papers.

**How will this affect you?**

There are many ways that blockchain and cryptocurrency can affect my daily life. For example, a blockchain is a huge digital ledger that tracks me and my family financial transactions. It may also be used to securely store essential and valuable documents, preventing them from being altered, stolen, or abused. Property deeds, birth and death certificates, financial transactions, insurance records, legal conflicts, and other sensitive documents may be safely recorded and maintained on the blockchain in encrypted code. Also, Blockchain techniques are being used to combat intellectual and creative property theft and fraud, as well as to create proof of ownership, in fields ranging from high-tech patents to fashion and entertainment. Among the blockchain IP use cases are:

- Provenance verification

- Registration

- Tracking of distribution

- Evidence of initial usage in business or trade

- Management of digital rights

- Smart contracts are being used to enforce intellectual property rights.

- Authentication of real-time payment transfer

- Counterfeit products detection

- Recovery of Stolen Property

***d/ Cloud Computing***

In this report, I’m going to write about an IT technology called cloud computing. Cloud computing has been around for a decent amount of time, enough for people to see its potential and influence on the IT industry as well as other fields. So far, it has done a lot for us in terms of increasing the convenience in accessing resources, reducing the budget, providing storage and much more. However, there is still room for further development, so I expect a bright future for this technology due to its impact on our lives.

Cloud computing is a technology which offers multiple IT services hosted in the cloud as the name suggest. More specifically, “cloud computing is a method of providing shared computing resources, including applications, computing, storage, networking, development, and deployment platforms as well as business processes. Cloud computing makes computing resources easier to use by providing standardization and automation.” (Judith S. Hurwitz and Daniel Kirsch 2020, p. 8). This means that the technology can be made useful in multiple contexts as long as it is computer-related work. For consumers, cloud computing provides 3 main services model, which are software as a service (SaaS), platform as a service (PaaS), and infrastructure as a service (IaaS). SaaS provides a completed software with user interface while PaaS is for developers, so it provides the developer tools, environment and systems so that they can test and create the application. IaaS is also made for developers, but it is much more advanced compared to the other two. Kris Jamsa (2012, p. 7) defined that “The infrastructure as a service (IaaS) model provides a virtual data center within the cloud. IaaS provides servers (physical and virtualized), cloud-based data storage, and more. Within an IaaS solution, developers must install their own operating system, database management software, and support software.”. Thanks to the variety of services and benefits, many people and corporation are using cloud computing for their own purposes. There are many examples regarding the diversity in the application of cloud computing. Some of the most common uses of cloud computing are hybrid cloud, test and development, Big Data analytics, cloud storage, disaster recovery and finally data backup. Hybrid cloud “is a computing environment that connects a company’s on-premises private cloud services and third-party public cloud into a single, flexible infrastructure for running the organization’s applications and workloads. This unique mix of public and private cloud resources provides an organization the luxury of selecting optimal cloud for each application or workload and moving workloads freely between the two clouds as circumstances change. Technical and business objectives are fulfilled more effectively and cost-efficiently than could be with public or private cloud alone.” (IBM Cloud Team 2020, para. 4). Another favourite use of cloud computing is Big Data analytics, for businesses to take a deeper look into their customers to make better products, “Retailers and suppliers are now extracting information derived from consumers’ buying patterns to target their advertising and marketing campaigns to a particular segment of the population. Social networking platforms are now providing the basis for analytics on behavioral patterns that organizations are using to derive meaningful information.” (IBM Cloud Team 2020, para. 9). Next is the cloud storage, a very popular use of cloud computing. Cloud computing “offer you the possibility of storing your files and accessing, storing, and retrieving them from any web-enabled interface. The web services interfaces are usually simple. At any time and place, you have high availability, speed, scalability, and security for your environment. In this scenario, organizations are only paying for the amount of cloud storage they are actually consuming, and do so without the worries of overseeing the daily maintenance of the storage infrastructure.” (IBM Cloud Team, para. 11). In the future, probably within the next three years, cloud computing can be used parallel with fog computing. Cloud computing has many strengths, however it comes with certain weaknesses, such as low responsiveness, low security, limited mobility and so on. Fog computing, however, “extends the Cloud Computing paradigm to the edge of the network, thus enabling a new breed of applications and services” (Bonomi et al.2012 p. 1). It can support cloud computing’s weak spot by offering traits such as high responsive time, high security and high mobility.

Along with the robust development of cloud computing, many things will be affected, most of them will be businesses and data related jobs. With its resources, cloud computing is powering computing activities by providing users with storage without having to own additional hardware for that purpose. Therefore, people can do they job more efficiently and not have to worry about installing extra memory in the long run. Moreover, for businesses, before cloud computing appears, companies have to put a great amount of effort into physical servers. Specifically, companies have to worry about wasting financial resources on servers they will not use as well as the maintenance of servers in operation. But now, with cloud computing, companies have the freedom to only pay for the cloud capacity when they need them, and adjust the capacity according to their demand, which allows businesses to scale easily. Also, cloud computing provides automation, which is useful for companies as they can focus more on their agenda and leave the maintenance to the cloud provider. For developers, this technology opens a new door to test and build larger projects with less time. As it provides applications, servers, and storage with significant amount, Big Data analysis and artificial intelligence are going to be significantly more powerful. Hence, data related jobs and businesses are going to make a big leap in terms of efficiency, demand and profit. With this direction, we may see a future where the cloud would absolutely replace all physical servers, and most of our activities will be more agile by using cloud-based services integrated with other existing technologies. However, this development of technology would likely reduce the need for the installation and maintenance of physical servers and hardware for memory. Therefore, computer storage devices and servers’ maintainers and producers are on the verge of unemployment in the future.

As for myself, I am not using cloud computing right now. However, in the future I would love to work as a data scientist. Therefore, I would like to get used to the work environment by practicing working with big datasets and getting access to online resources as I need them. So, cloud computing would assist me significantly on my way to my dream job. As for one of my relatives, my uncle who is an artificial intelligence engineer, he has been using cloud computing for work, more specifically for data storage and managing his training models. Since using this technology, his job has been more convenience and easier in terms of increasing productivity and delivering products for customers.

**5/ Project Ideas**

In this section, I will mainly cover which project we will work on based on the experiences and ideas that our members shared. Our group has gathered the idea from assignment 1. Each member had provided, but most of them are quite unable to realize it in a short period. My project was to make a website that creates a website for a customer based on their needs, but my abilities and techniques might not be able to fulfill customer needs such as design, tools. Other members’ ideas were great either, but some of their ideas are unfeasible or require a large amount of working time. Therefore, we decided to come up with a new idea that we can find out in normal life. Each person has suggested and shared their experiences. After that, someone in our group had proposed some concerns when forming a group for the assignment in Canvas. Of course, Canvas has lots of useful functions including dashboards, courses, calendars, and many options that can help students to track how they are going and guide them on what they need to do. However, only a few people prefer to use the Inbox function because it is almost the same as email. Also, in the discussion channel, it was quite hard and inefficient for them to find out members because they cannot check whether she/he has found their group or not unless the writer edits the post. After that, we discussed creating a website for students in RMIT to search for their groups and teammates. However, we faced a challenge as discussion and people channel in Canvas are already taking place in this, it still works well and we should come up with a unique idea that can be differentiated from the existing one. We focused on finding groups section rather than other functions such as courses, or announcements channels so that we can narrow down and develop more on it. Our plan in this project is to create a search tool. Mainly, the data will be synced or be filled by the user, and if they make their profile searchable, then other people can look on their profiles. The search tool will contain requirements that can filter certain students. The requirements in the searching tool will be current campus, nationality, gender, a location so students can choose partners that they want to work with based on the most suitable condition. Teachers usually assign the group for the students randomly, but the main purpose of students to find the group is to reach a higher score such as HD, DI. After the semester is finished, the other members can rate their contributions to the work anonymously so that the other people can check whether his/her working style fits them or have passion for their work. In addition, the messenger will be added to the website so that the students can discuss and chat directly instead of using the email type method. The main reason why using this method is that using email can bring some drawbacks. People usually check around 15 times per day, but a recent study from researchers at the University of British Columbia has announced that people nowadays were limited to checking their email just three times per day [1]. Late reply through email will lead to low efficiency of communication. Therefore, our group had concluded that making a chatbox on a website that can directly connect each other can improve the speed of finding their own groups and members based on their requirements. The expected outcome in this project is to encourage students to find out their own group by themselves so that they can reach a higher score by finding suitable teammates that can improve their working efficiency and productivity.

**6/ Feedback**

Bui Minh Khoi’s feedback:

* For this assignment, lets look back on how each member contribute to the project.
* Firstly, is Nguyen Minh Nguyen and Nguyen Duc Quang, with their help of gathering all the necessary information about the team profile and upload it on to the website without any trouble. They also always checking on other member to remind us about our work to support and improve our work if needed.
* The next member is Soohyuk Jang, his main role is to work on our project idea that explain what we are making, what the outcome of the project in which is a website that allow student to look for another member or a group to join more easily.
* The final member is me Bui Minh Khoi, my main role of this team is to look for an IT professional and have an interview with them to have the answer to all the question on IT work and an additional question that may give us some advice and tip on our journey to become an IT professional in the future in a summary of a 14-minute-long video. But because the interview happens later in the week, so I doesn’t have enough time to subtitle the whole video for the assignment, so I just translate all the information we need thought the interview.
* Overall, I think our team have done a great job on this assignment, the work is divided equally based on everyone choice. And there is no conflict happen during our work and that is a great sight. Everyone help each other to improve the group work no one was left behind or do the work alone.

Nguyen Minh Nguyen’s feedback:

Personally, I think Quang is a great teammate in many aspects. He is very active and is the one who put the team together at first place. I can see that he has tried to make the team know more about each other, and also willingly to help members at any time when there is problems and questions. He is also very talented in web programming, since he can create a basic website that should have taken me a whole week to do so. Although sometimes he is just too busy to join a meeting of the team, but I believe that you can count on him during a project assignment.

Khoi is another active member of our team. He even got some jobs done even before we tell him to, like there is a time where he set up the repository for the team even though we haven’t mentioned it. He is the one responsible for doing the interview, in which he has successfully completed it. I think it is because he has an outgoing personality, so it makes sense that it is easier for him to talk to others without having much trouble. Although he is quite forgetful at sometimes, but I think he is a valuable teammate to our team at the end.

Jang is still an active member, though not as active as the mentioned above. He always shows up during a team meeting, and he also give out his ideas a lot, especially during the project idea, although he is not responsible for that part at first, only after our team have all decided on the project idea. His ideas though, are very clear and help to contribute to the many missing parts of the initial draft idea. He has also finished his work which has overcome my expectations. Because of these, I can guarantee that he is an excellent teammate for a group assignment.

During the assignment, one of my tasks is to do the web page. In that process however, there has been a lot of problems, which ended up took me a lot of time to finish the web page. Because of this, I need to notice more about the time management. However, I’m quite happy with the end result, since it matches with most of what I’ve imagined before. Another task that I’m assigned with is write a report in an areas of IT technologies. Since this is a well-known area, there has been a lot of sources for it, but my writing style is not good and so the report feels not that concise and clear. Overall, I think that I’ve completed my tasks successfully, but I’m going to need to improve myself in many areas.

Nguyen Duc Quang’s feedback:

Nguyen Duc Quang: Hard-working, engaging, but work progress is a little slow and needs to improve on his writing skills and citing skills. Overall, Quang can offer so much more if he can improve on his productivity.

Nguyen Minh Nguyen: Very responsible, works very quickly and the pusher of the team. Moreover, he is a fast leaner and an efficient person. He is also the one who come up with the final idea for the project idea part of our report. Overall, Nguyen could potentially be the leader of the team.

Jang Soohyuk: Jang is pretty active in group discussions and great in giving out ideas. He is efficient, on time. Overall, Jang a very decent member of the team.

Bui Minh Khoi: Khoi, like every other member of the team, is very active and engaging in group discussions. Also, he is very outgoing, friendly, and always tries to finish the work as well as possible. Overall, Khoi is a great team member to have.

Jang Soohyuk’s feedback:

In this section, I’m going to look back at how our group has done the work, and how each member in the group have contributed to group assignment. Our group has divided the work equally based on their abilities. Nguyen Minh Nguyen and Nguyen Duc Quang mainly took part in GitHub and Team profile section. They summarized the personal information that we worked on in assignment one and gathered the file that the whole member uploaded in GitHub, put them into one place, and upload them to the website. They also guide our group on which processes need to be taken and arrange the group meeting time to keep us on track and improve productivity. Bui Minh Khoi, thanks to him, our group doesn’t need to look for an IT professional that might take time to find out. He took an interview with an IT professional and answered the questions for the interview by summarizing 14 minutes long videos. Soohyuk Jang, which is me, worked on a project Ideas that explain what we are making, and come up with the actual outcome by creating a project which is to make a website for students that find their group members or group to join. In addition, each member worked on the IT Technologies. We chose Cloud computing, Cybersecurity and privacy, Artificial Intelligence and machine learning, and Blockchain and cryptocurrencies. Through these topics, we investigated each part and mainly discovered its role of it in society and how it affects us in different ways. I believe none of us damaged our productivity because each member completed their work on time, and there was no conflict when we choose our work.

References list:

Report reference list:

Fortune Business Insights 2021, *Artificial Intelligence (AI) Market Size, Share & COVID-19 Impact Analysis, By Component (Hardware, Software, and Services), By Technology (Computer Vision, Machine Learning, Natural Language Processing, and Others), By Deployment (Cloud, On-premises), By Industry (Healthcare, Retail, IT & Telecom, BFSI, Automotive, Advertising & Media, Manufacturing, and Others), and Regional Forecast, 2021-2028,* industry reports, Fortune Business Insights, viewed 6 December 2021, < https://www.fortunebusinessinsights.com/industry-reports/artificial-intelligence-market-100114 >

TIOBE 2021, *TIOBE Index for December 2021*, TIOBE, viewed 7 December < <https://www.tiobe.com/tiobe-index/>>

Ryszard Szopa 2019, ‘Your AI skills are worth less than you think’, Inside Inovo-Medium, viewed 6 December 2021, <<https://medium.com/inside-inovo/your-ai-skills-are-worth-less-than-you-think-e4b5640adb4f>>

Fireship 2021, The Truth about Github Copilot // AI programming First Look, YouTube, 30 June, Fireship, viewed 25 November 2021, <<https://www.youtube.com/watch?v=4duqI8WyfqE>> (Kacie Kinzer 2009)

Kacie Kinzer 2009, Tweenbots by Kacie Kinzer, viewed 7 December 2021 <<http://www.tweenbots.com>>

Russell, S. (2021) The history and future of AI. Oxford review of economic policy. [Online] 37 (3), 509–520.

Jane Collingwood 2021, ‘Can Artificial Intelligence Improve Lung Cancer Diagnosis’ , Southern Medical Association, viewed 4 December 2021, <<https://sma.org/artificial-intelligence/>>

Rory Cellan-Jones 2020, ‘Uber’s self-driving operator charged over fatal crash’, BBC news, 16 September, viewed 4 December 2021, <https://www.bbc.com/news/technology-54175359>

Will Douglas Heaven 2020, 'OpenAI's new language generator GPT-3 is shockingly good-and completely mindless', MIT technology review, 20 July, viewed 9 December 2021, <https://www.technologyreview.com/2020/07/20/1005454/openai-machine-learning-language-generator-gpt-3-nlp/>

Kurzgesagt – In a Nutshell 2017, The Rise of the Machines – Why Automation is Different this Time, Youtube, 8 June, Kurzgesagt – In a Nutshell, viewed 24 November 2019, <https://www.youtube.com/watch?v=WSKi8HfcxEk>

[1] IT Governance, “Cyber Security.” https://itgovernance.co.uk/what-is-cybersecurity (accessed Dec. 12, 2021).

[2] iapp, “What is Privacy.” https://iapp.org/about/what-is-privacy/ (accessed Dec. 12, 2021).

[3] Whitehouse, “FACT SHEET: Cybersecurity National Action Plan,” *whitehouse.gov*, Feb. 09, 2016. https://obamawhitehouse.archives.gov/the-press-office/2016/02/09/fact-sheet-cybersecurity-national-action-plan (accessed Dec. 12, 2021).

[4] Michael Vietnam, “Cyber Security Engineer - JN-092021-3603130,” *Michael Page Vietnam*. https://www.michaelpage.com.vn/job-detail/cyber-security-engineer/ref/jn-092021-3603130 (accessed Dec. 12, 2021).

[5] V. Anh Le, “Information Risk & Data Privacy Manager at Prudential Vietnam Assurance | ITviec.” https://itviec.com/it-jobs/information-risk-and-data-privacy-manage-prudential-vietnam-assurance-1444?utm\_campaign=google\_jobs\_apply&utm\_source=google\_jobs\_apply&utm\_medium=organic (accessed Dec. 12, 2021).

# Ryan, H 2021, ‘Ethereum Jumped Back Above $4,000 Following Fed Rate Hike Announcement. Here’s What That Means for Investors’, NextAdvisor, viewed 10 December 2021, <https://time.com/nextadvisor/investing/cryptocurrency/ethereum-hits-new-all-time-high-price/>

# Ambrose Leung 2021, “Ethereum Reaches New All-Time High of $4,000 USD”, HYPEBEAST, viewed 10 December 2021, <https://hypebeast.com/2021/5/ethereum-cryptocurrency-eth-all-time-high-4k-usd-news>

# Automotive News Canada 2021, ‘How NFTs could be used in car ownership, especially self-driving vehicles’, Automotive News Canada, 6 April, viewed 13 December 2021, <https://canada.autonews.com/technology/how-nfts-could-be-used-car-ownership-especially-self-driving-vehicles >

# NonFungilble 2021, ‘NFT sales hit $293 million over the past week. These were the 5 best-selling digital art collections’, Business Insider, 7 December, viewed 10 December 2021 <https://markets.businessinsider.com/news/currencies/5-best-selling-nft-collections-sales-hit-293-million-2021-12>

Hurwitz, J & Kirsch, D 2020, *Cloud Computing For Dummies*, 2nd edn, John Wiley & Sons.

Jamsa, K 2012, "Cloud computing; SaaS, PaaS, laaS, virtualization, business models, mobile, security, and more", *Reference and Research Book News,*vol. 27, no. 4.

IBM Cloud Team 2020, *Top 7 Most Common Uses of Cloud Computing*, IBM, viewed 16 December 2021, <https://www.ibm.com/cloud/blog/top-7-most-common-uses-of-cloud-computing>.

Bonomi, F, Milito, R, Zhu, J & Addepalli, S 2012, “Fog Computing and Its Role in the Internet of Things”, *MCC '12: Proceedings of the first edition of the MCC workshop on Mobile cloud computing,* pp. 13-16.

# Project idea’ reference:

[1] M. Murphy, “The Way You Check Email Is Making You Less Productive,” *Forbes*. https://www.forbes.com/sites/markmurphy/2016/09/18/the-way-you-check-email-is-making-you-less-productive/ (accessed Dec. 17, 2021).