**Ready Not Team Profile**

**Team name**: Ready or Not

**Personal information:**

* **Abdulmalik Nakoa:**

My names Abdulmalik Nakoa, also known as malik. My student id number is (S3973358). I am north African, born in Libya, Tripoli. I have gained an interest in cybersecurity and computers in general and decided to take the IT Bachelor course with Rmit University. This is my first year and first semester, so everything is new to me! I love building computers and putting together things and love to find out more about how things work together.

* **Xinlong Wu:**

This is Xinlong Wu(s3860954), a 3rd year Bachelor of Information Technology student at RMIT (Royal Melbourne Institute of Technology) University. I am from Inner Mongolia, China. I have currently obtained my undergraduate degree in Computer Science from Beijing Normal University, Zhuhai, China. I am currently enrolled in RMIT's Bachelor of Information Technology as a exchange student. This semester is my last semester at RMIT, and I will graduate this year if all goes well.

* **Adrian Ghitoaica:**

My name is Adrian Ghitoaica, I am Romanian, currently undergoing my bachelor’s in construction management (Honours) in second year, I can speak Romanian, and I like outdoor activities like fishing, camping. I am pursuing my first degree and am set to graduate by 2024 if everything goes well. I believe an understanding of IT will support me in future, and enhance my skillset, hence choosing this course.

* **Mohamed Ihthisham Mohamed Imthiyas:**

I am Ihthisham Imthiyas, I joined RMIT to pursue to my higher education in the field of Business majoring in Information System. I am from Sri Lanka, and I moved to Australia for my higher education. Sri Lanka is a popular tourist destination. I got my secondary education in a very prestigious institution with a history of over 100 years. I wanted to pursue my career in the field of business since my childhood and I chose a college which has an affiliation with an Australian university, I completed my diploma and transferred to RMIT.

I have taken part in many sporting events since my childhood. Cricket is my favourite game and I have been playing that sport since primary school. I represented different cricket clubs back home and been on several cricket tours. I couldn’t play cricket for a couple of years due to covid, once everything was back to normal, I joined RMIT cricket club as the opening Batsman.

**Team Profile:**

Throughout the team, we have strong leaders and meticulous executors. We also have attentive defender, which is already the quality needed for a potential team. According to the results of the Myers-Briggs test for each person in the team, we are delighted that each of us has a different personality. There are defender, entrepreneur, and consul among us. They are very well organised when they get toghter. They are also willing to lend a helping hand when their teammates are in trouble. This is why they are the one of the best choices to be a co-workers.

In fact, our team is not mature enough, that means we need to keep learning, so it is also particularly important to know the learning habits of each team member. We are pleased to find that the learning styles of our team members cover all three learning styles: visual, tactile and auditory. We are pleased to see that the learning styles of our team members cover all three learning styles: visual, tactile and auditory. Each of us has different ways and methods of acquiring knowledge. When such people form a team, the team can acquire and develop knowledge from different ways and means at the same time. Consequently, this team can develop and mature much faster than others.

**Ideal Jobs：**

Our team members choose Ideal Jobs on different principles. For example, some people want to find a well-paying job and don't care much about the content of the job. Others will choose a job from the field they are interested in. Some of us want to be a data analyzer, some of us want to be a manager, and others want to develop software and have fun with coding. The table below shows the differences in our respective Ideal Jobs and the selection criteria.

Through our comparisons, we found that each person chose the most appropriate career for their interests and that each person's choice was equally matched to their personality traits. This is very interesting and makes us work better together!

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Xinlong Wu | Ihthisham Imthiyas | Adrian Ghitoaica | Abdulmalik Nakoa |
| Job | Front End Dev | Business Analyst | senior manager | Senior software developer |
| Learning Style | Visual learner | Auditory Learner | Tactile learner | Visual learner |
| Interest | fantastic web pages | Communicate with Client | High Salary | Enjoy Coding |

IT work section -----(covered by Adrian)

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**IT** **technologies**

Behavioral Analytics ----------- malik

What does it do?

Behavioral analytics is the process of collecting and analyzing user data from their actions of a digital product such as a website or application.

Examples of behavioral analytics include:

* Creating an account
* Adding something to your cart
* Buying a subscription
* Playing a song on Spotify
* Filling out a survey online

These actions are tracked for analysis to reveal user preferences, habits and intentions.

Right now, Behavioral Analytics is a baseline requirement for advanced security in systems. It can use data and algorithms Aswell as machine learning to point out unusual behavior within applications or software which can help identify malicious behavior that are linked to certain types of attacks. Behavioral analytics can also help uncover root causes of attacks and provide insights on the attack.

Behavioral analytics can uncover malicious behavior by pointing out unusual timing of events and increased data movement for example.

One of the biggest applications of behavioral analytics in security is detecting insider threats. This is where an employee of a company for example decides to go against his own company for personal reasons. Since an employee has access to personal company information no hacking is required. This is where behavioral analytics comes into play by detecting the employee's unusual behavior.

A lot of everyday things that we do use Behavioral Analytics that you may have never realized:

* Smart watches (track biometrics)
* Doorbell cameras (track the people who come and go)
* Smart thermostats (track temperature preference throughout the day)
* Smart voice assistants (learn when you want specific action)

The future of Behavioral analytics:

The future of behavioral Analytics in cybersecurity is promising. Analytics will be able to fortify their defenses against cyber-attacks and will be able to respond and resolve issues faster and more efficiently. Behavioral analytics is rising in popularity due to data increasing every day. The more data being used the more security that can be provided through behavioral analytics as it can sift through all information and data given making it easier to point out unusual behavior. Behavioral analytics is not only used in security, but the future of behavioral analytics is also used in e commerce and finance. In the future, consumers won't even have to search for what they are looking for, it will be suggested to them through advertisements on television and websites and on their phones. People will be surrounded by their interests as their behavior online is all being monitored to give them what they are looking for. Behavioral analytics will help companies identify products that are most popular and help achieve success. AI technology contributes to behavioral analytics future as AI assistants and virtual assistants are becoming smarter and more advanced. behavioral analytics can make AI become more closer to humans than ever, analysing every step of their behavior to the core.

<https://www.infoworld.com/article/3663433/what-is-behavioral-analytics-and-when-is-it-important.html> (link for refrencing the next part)

The reason on why behavioral analytics’s future is so promision is due to data increases every single day. More people are logging on to the internet everyday which means more data is being passed around which means more analysis to be done on behaviour around the world.

**What is the likely impact?**

This technology will change the way businesses and security work. Behavioral analytics make everything easier whether its consumer wise or security, it helps either way. AI, machine learning, robots and robotic process which use behavioral analytics will make widespan redundancies in jobs or technologies making automation a common solution to business and people, but it will make the most out of data, AI and business advertising technologies. Analyzing and reporting people's behavior online and knowing their every move will make security almost impossible to break. Customer service, receptionists, proofreading work, manufacturing, retail services, physiatrists are all possible jobs that could be soon taken over with behavioral analytical technologies.

This will also create jobs for IT specialists to modify or improve and even create even more efficient and powerful behavioral analytic techniques. People's shopping could be way quicker and will require less thought as what they are interested in comes up right to their face via a ad or suggestion. People who love the internet and devices and electronics and what it provides will be the most affected by this technology. Knowing people's behavior will potentially even stop major crime and predict future events, this could create an understanding of how certain processes or things are used and why such things happen. More analysis also leads to more insight for asking the right questions, behavioral analytics can lead scientists and people who are curious into the right direction. For example, in security we can use behavioral analytics to ask and answer:

Why has this event happened?

Was there a user who initiated it?

Were other devices affected?

**How will this affect me?**

In my daily life, I will be suggested products every day that I won't even have to think about because my behavior online was matched with this product which I was initially interested in. Suspicious behavior that occurs on my devices or applications or accounts will be marked and will be notified to me instantly making my daily security exceptional and will leave me stress free. However personally, behavioral analytics makes me uncomfortable or gives me a feeling of no privacy. I feel like my life is monitored 24/7 and I cannot escape anything that I do online. My family members interests will be suggested on sites and YouTube for example the things they like will start to come up on suggestions and will make me more familiar with their hobbies which is a good thing. I can use behavioral analytics to my advantage to see what IT jobs are in demand and what employers are looking for in IT students to help me with my future. I could gain more broad knowledge on my interests and learn extensively about the things that interest me as more content and data is suggested to me. For example, through the amount of time I spend on certain websites. My life will become more simplified as AI assistants can help understand and memories what I look for everyday and the way I live my life. They could remind me to do certain things in the morning which I consecutively do everyday, they can guide me giving me directions to where im going in the car. Behavioral analytics in general will simplify not only Security but also business practices, IOT and life practices.

Raspberry Pi ----------- malik

What does it do ?

Rasberry Pi is essentially a small sized computer that can be used just like a normal computer. Plugged in to a monitor with a mouse and keyboard, it is capable of playing High-definition video and can do pretty much everything a normal desk top can do.

It is very tiny, cheap and highly versatile computer that can fit into your pocket. There is a variety of uses for a rasberry pi which include using it for coding projects. You can use an entire operating systems with rasberry Pi such as Linux which is the main open source operating system for rasberry Pi. The main language for rasberry pie is Python. There are many different models of rasberry pi depending on the use that you have in mind for it. You can create a entire web server with PI and can stay on 24/7 without having to pay a massive electric bill, its also perfectly fast enough to handle loading up web pages and within local networks. The fact that the cheapest Raspberry Pi is around $4 USD and the most expensive version being $70 USD, (its about $60 AUD to 150 AUD now!), this is due to chip prices rising and the pandemic forced Raspberry pi to increase its prices. that alone shows its popularity and extraordinary features for its price. It is deemed the future of computing devices due to its ability to make use of IOT and being less expensive then most computing devices. The Rasberry Pi 4 allows you to play video games at 60 frames a second with inbuilt wifi and bluetooth to support wireless internet. Additionally the PI 4 gives you the capability to boot from a pen drive or USB attached drive, this will allow easing of remotely updating its systems and sharing system images between different machines which is an amazing feature considering its size its amazing. Raspberry Pi works best along side a desktop PC to enhance its functions such as online services, web browsing, office applications, and can act as extra memory even!

In summary, raspberry pi is:

* Simple python programming language therefor makes it easy to read functions

The future of Raspberry Pi

In the coming years, Raspberry Pi will become very successful and change computers drastically. Reason being:

1. It demonstrates how something so ridiculously cheap can be good enough for the everyday tasks of people
2. Can perform many activities other devices can.
3. It can make a mockery out of $1000 PCS at the fraction of the cost

Every day we see a lot of people settle for less. Smartphones for example, a old iPhone 8 can do what a iPhone 13 can and is still considered fast and reliable. Schools tend to choose chrome books over iPads and apple MacBook's. Not good news for the premium device market but it's great news for us!

Raspberry pi is continuing to provide improvments such as performance, cooling, connectivity and storage at a stable cheap price. Raspberry pi as of now and in the future will continue to hold the top choice of a inexpensive general puprose single board computer.

What is the likely impact?

Since it was first designed and released around 2012, raspberry pi had a big impact on education and the world of computers. It has sold more than 40 miillion units (cambridge uni) which have been used in numerous ways to benefit the world. Raspberry pi created a new class of computers, single board computers which make engineers, teachers, programmers and students lifes easier, cheaper and funner in every way possible. Raspberry Pi even has online resources where coding clubs, programmes and competitions have been provided to millions and millions of people from around the world providing excellent education and knowledge at a low cost.

(<https://www.cam.ac.uk/stories/raspberrypi#:~:text=Raspberry%20Pi%20has%20helped%20kick,from%20more%20than%20100%20countries>.)

Interestingly enough, raspberry Pi was actually set up as a foundation which was non – profit but due to their mass success it allowed them to pursue beyond simplicity and has created a new way of computing.

Raspberry Pi has created jobs for people around the world aswell especially in the manafacturing part. There are jobs such as data engineers , software engineers, programmers and even electrical engineers postions available for raspberry pi enthusiasts. There are 6 different generations of raspberry pi each of them deployed all over earth and believe it or not some raspberry pis exist on space!

How will this affect me?

Since raspberry Pis are cheaper compared to other computers, this changes the way I shop for new computers. It makes me take into consideration the credit card sized computer that could do everything a normal laptop or pc can do for a fraction of a cost. Its logically the better choice to go with a raspberry pi unless im looking for something specific. My families and friends will also take into consideration of raspberry pi not just for personal use but to learn more about the world of computing, raspberry pi will also get them into programming and what it has to offer. This opens up educational opportunities and even possible future pathways that might change their mind on what they are doing right now. Whether its creating whole programming scripts or creating fun projects like a water dispenser or Bee/wasp counter, Raspberry Pi does not hold out on the fun it has, even building simple things. Perosnally iv gained interest into starting my own Raspberry Pi project where I use its touchscreen add on to create a small touch screen device which connects to my computer and displays statistics and information on my pc like temperature and ram usage. Ofcourse we can just use Raspberry Pi for fun but there's a whole world to explore with such a small device.

Machine Learning – Malik

What does it do?

Machine learning is a type of artificial intelligence that allows software to predict outcomes without being programmed or told to do so. Its based on algorithms and uses historical data to predict all its outputs. Machine learning provides with

* Human behavior
* Predictions
* Statistical methods
* Uncovering information

All these beneifts help businesses and or scientists to predict outcomes easily. For example, a business that sells a new product can predict its sell rate by accessing human purchase data to see what products are most bought and it will do its magic to figure out a algorithm to show how successful this new product may be. Many leading companies of today use machine learning such as Facebook, google and uber. Machine learning helps with decision making within applications Aswell.

There are 3 methods of machine learning that is used today

1. Supervised machine learning

Supervised machine learning consists of learning a function based on a input and out put of labeled data. For example, giving 3 apples and 2 bananas to a model that is using unsupervised machine learning will predict that it's an apple and banana while a supervised machine model will show exactly 3 apples and 2 bananas. Basically its developing predictive models based on both inputs and outputs of data.

1. Unsupervised machine learning

The same as supervised machine learning, however this time the model is only interpreting data based on inputs only it does not interpret outputs

1. Semi supervised learning

A mid way between supervised and unsupervised machine learning where it uses smaller labeled data sets and a larger set of unlabeled data to interpret.

Speech recognition is one of many machines learning technologies which is a computer speech recognition or speech to text technology which allows users to use a microphone to speak and allows the computer to process the human speech into a written format. An example of this technology is Siri on apple iPhone.

Customer service is also used with machine learning with technology and software such as online chat bots who are replacing human agents, they answer (FAQS) most frequently asked questions. Many e commerce sites, messaging apps, virtual agents use virtual assistants and chat bots to help customers.

Computer vision is my favorite and most interesting technology in my opinion that uses machine learning. This AI technology enables computers and systems to derive meaningful information from digital images and any other online visual inputs. Based on the data it pulls from those visual representations it can take action. Image recognition, photo tagging, radiology imaging in healthcare and self-driving cars are all part of machine learning computer vision technology.

There are many more technologies to list that use machine learning. Thanks to the enormous amount of data technology has created today, machine learning is getting more advanced every single day and in the next 10 years or so all those technologies listed above will be completely unrecognizable and unbelievable. quantum computing has also made machine learning possible as it enables faster data processing which boosts machine learning capabilities. Googles quantum computer in 2019 completed a task in 200 seconds which would havce taken the worlds best supercomputer 10,000 years to complete

(<https://edition.cnn.com/2019/10/23/tech/google-quantum-supremacy-scn/index.html>)

Other developments and technologies such as artificial technology allow machine learning advance further, machine learning is often used interchangeably with artificial intelligence hence why they work so similar in terms of technology imagine combining both of these technologies the possibilities of new technologies are endless.

What is the likely impact?

Almost everything coming out of the technology world has machine learning or artificial intelligence. on the education side, smart classrooms are being developed even today and are getting more advanced every single day. Digital systems are being conjoined to everyday classes. Imagine integrating machine learning into students and teachers' lives it will make learning much easier and eases burdens on both teachers and students. Many aspects of education can be automated with machine learning.

Healthcare is using a lot of machine learning for faster paitent diagnois, it can also preditct health problems based on age status, genetic history etc, and can prevent illnesses from occurring. The most commonly used in the healthcare industry today is accurately scanning and detecting tumors in radiology scans detecting cancer using machine learning.

Homes are also becoming ‘smart homes’, with machine learning alarm systems and surveillance cameras. They are very popular this year, especially cameras using machine learning with facial recognition recognizes unknown visitors. Automation of our lifes is already happening and is just getting more advanced in the coming years.

Transport is increasingly using automatic driverless cars which is the most prominent display of machine learning today. Driverless cars like elons musks tesla company can differentiate between a pedestrian and a road signal. Many countries today are focusing on military machine learning which consists of drones and robots defusing bombs

Despite all these amazing advances and potential of machine learning, this means that they will take our jobs and with the increased data this means there is a massive privacy issue its almost like everyone will operate similar to an open source software.

How will this affect you?

I love gaming, and machine learning affects my gaming life, for example bots in video games are getting smarter and better. The most common machine learning in games is chess where the computer plays against you and knows every move you make. they are impossible to beat depending on the game and difficulty you set them on and they know every single move you make and what you will be going to do next.

I may even never have to make friends again, Pepper a companion robot created by Bob Odonnel, president of TECHalyisis Research, was programmed to read human emotions and develop its own and help its human friends. Now I have very smart robots or well in the future I will. Imagine sitting down and talking to a robot about your day and it knows exactly how you feel very creepy but amazing technology.

Worrying about my health will no longer be one of my worries with all the advanced machine learning aiding patients and seeing fewer cases of hospital related illnesses. It allows my doctor to know more about my possible diseases. I wont have to worry about my family members getting sick as I will have the 100 percent accuracy provided by machine learning saving the lives of my family and friends. Imagine a world with no extremely non survivable diseases that will be possible with machine learning healthcare technology.

I always wanted superpowers but with machine learning I can become a cyborg if I ever had a life changing injury. Say I lost my arms I got get a cyborg robotic arm. In the future, the human brain will be able to communicate with a robotic limb this will be life changing for millions of people around the world, not only me.

Autonomous Vehicles

What does it do?

Self-driving vehicles are also known as autonomous vehicles. Imagine you jump into a car speaking to your car telling it where you want it to take you while you surf the web or play on your Nintendo switch.

How do they work?

These autonomous vehicles rely on sensors, complex algorithms, machine learning systems and powerful processors to execute code and software. Their radar sensors can pick up surroundings and create and maintain a map of nearby vehicles and the environment. They could even pick up and understand stop signs, pedestrians using some light detections and ranging. Sensors bounce pulses of light off the cars surroundings to measure distances, detect road edges and identify road markings.

All of this technology is processed into software then process all of this sensory input, plots a path and sends instructions to the car to tell exactly what to perform. This could mean acceleration, braking, steering, obstacle avoidance and object recognition.

What can be done right now?

Advanced driver assistance technology right now is able to prevent crashes and lane departure prevention as well as blind spot detection and rear crash prevention systems. These technologies make our lives easier and our driving better and more comfortable. These technologies were then followed up by many car brands such as Mercedes which took autonomous vehicles even further when they introduced drive pilot which allows the driver to hand over direct control of steering, speed and even supervising overall operation of the car. Tesla is the biggest integrator of autonomous vehicles. They have a auto lane changer, autopilot navigation, auto park, summoning the vehicle from a parking spot or calling it to come to you in a parking location.

As of right now, removing the drivers attention completely is not yet possible. An extra set of eyes is still needed to keep control of the vehicle. Most vehicles today are semi-autonomous which are designed to aid you in driving and make you the best possible driver.

What is the likely impact?

Business and car companies who cannot keep up with this technological development will struggle and will face many problems. Hundreds of billions if not trillions will be lost from:

* Automakers
* Suppliers
* Dealers
* Insurers
* Parking companies
* Any car related enterprise

Human errors in cars are what cause nearly all crashes today. This can be solved through autonomous vehicles as accurate computers and software do not make errors so imagine of millions of these autonomous cars are on the road at the same time, there will be no need for traffic lights. For instance, rear ending a vehicle since you weren't paying attention cannot be caused by an autonomous car. Autonomous vehicles are safer in preventing types of accidents that have to do with human error.

Who will need 8 airbags and a heavy chunk of metal to protect them when accidents are so rare? Who needs a parking spot when your car can come pick you up from work later? Who needs to book a flight when you can leave whenever you like sleeping half of the time and arrive at your destination swiftly.

Taxi and limousine industries will substantially be impacted or could even potentially create new ones to be used with autonomous vehicles.

Autonomous vehicles in the future will be more reliable and safer than being driven by a human due to all the advances in technology. Generally autonomous vehicles will rely on camera technology especially since new cameras recently are able to generate 3d measurements at long range and since future platforms will be strongly driven by both safety and cost considerations.

Autnomous vehicles will also make jobs such as truck drivers redundant, now me personally I love to hear this news because I do not like truck drivers however since this self driving tech is so widespread and is in mass development transporting goods in trucks will be automated in the future. This means that suppliers may invest in automated transportation rather then paying employees to deliver their goods. Not only that but at the same time;

* paying less driver wages
* Faster and cheaper commutes
* Reduced risk of road accidents
* Additional mobility for disabled and non drivers.

Howevrer there are some cons and risks too such as cyber attacks. Imagine getting your supply track hacked and being driven the opposite direction then losing track of its location. Extensive software maintance and upgrades will also include high cost of integration and use which will take lots of business time aswell but in the long run the future is very promising and is looking to make many of our lives easier in a way.

How will this affect you?

Not just me, everyone in my life and around me will be dramatically impacted by this technology in the future. Growing up as a teenager I needed to get my license and Ps to drive around in my car acting cool, with autonomous vehicles there will be no need for a license as the car itself tests to see if you are able to drive it or not. Parents won't have to pick me up from my soccer games as I can just tap my phone and the car will come by and pick me up on time. Going to school in the morning couldn’t be easier, getting dropped off on time by car. Travelling around the country in general will be much easier and more comfortable. transport business won't need licensed drivers as they begin to order autonomous vehicles which drive themselves through applications getting called by users transporting them to their location and staying on standby till it is called to a nearby location again. We would be relying on our vehicles heavily and most people around the world would be finding it easier autonomously getting driven to their destination. Everyone would be entrusting software to deliver them from point A to point B.

Industry Data - Ihthisham

This group consists of members with different job titles. The diversity present in this group was beneficial as we were able to generate various ideas. My ideal job title is ICT business Analyst. ICT business analyst or systems analyst was very popular, and it was ranked 6th based on the jobs posting for the year 2017. Based on the industry data report generated on March 2018 the demand for ICT business analyst ranks high.

Adrian who is a member of this group has selected the senior construction management role as his ideal job title. Construction management role is quite popular in the current era. The demand for construction managers in Australia has risen over the years.

Abdul malik has chosen software developer as his ideal job. We live in a tech savvy era and the demand for software developers are quite high. According to the burning glass labour insights data, software developer is one popular career and there is high demand for software developers. According to 2018 data there was 337 postings for software developers.

Xinlong Wu has chosen front end engineer as his ideal job. Front end engineer is among the top 5 according to the burning glass data 2018. There was around 738 posting for front end engineers.

Different skills are required to fulfill the ideal jobs of the group members. Out of all the IT skills required, the most prominent and demanded skills are SQL, Java script, Java, SAP, Business Analysis, Graphic design, software engineering, website production.

General skills are as important as technical skills. The required General skillset for the group based on the ranking. Communication skills, problem solving skills. Organizational skills, teamwork, trouble shooting, planning, time management etc.

Three highest rank IT skills which are not in the required skillset are customer service, ITIL and scrum

Three highest rank general skills which are not in the required skillset are writing, research and mentoring

After going through the burning glass data, the opinion on the Ideal job remains the same. It was clearly visible that the Ideal jobs that we had chosen are popular and they were highly regarded by the employers

---- Malik (project idea)

**Ready\_or\_not Team Project Idea**

**Smart fridge software**

**Overview**

The original problem that this project will aim to terminate, is the issue of not being able to track our diets accurately and maintain healthy level of food intake. This software will aim to benefit humanity from reducing the ecological impact of mankind on the planet to helping people maintain healthier lifestyles through this project.

This project consists of a software that is designed to scan barcodes on items and tell you exactly how much calories, kilojoules, ingredients and everything else that is in the food. The software can also keep track of all food that you have eaten, all food you have bought and all food you have stored away. Another cool feature of this software is the recipe lookup, it checks to see what foods are in the inventory and scores the web for recipes that can be made with what’s available This software is a sort of food organizing, monitoring and developing software which helps users watch their calorie intake, cook healthy meals and know what they are missing in their fridges or storages.

**Motivation**

This project will help millions if not billions of people. Everyone wants to eat healthy and be the perfect weight and make sure they are getting enough nutrients, however not everyone has the time to figure out a plan or has the money to afford a nutritional expert to guide them. Just opening this application and adding your food items that you eat throughout the day is enough to tell you if you are going over your limits or not, making it 10x easier than doing the research and paying a professional. Furthermore, keeping track of the items, you buy and what you are missing for your plans helps you organize and possibly save money on certain food aspects. This software will be the go-to application to figure out a 5-star meal plan and ingredient sorter.

**Description**

**Aspects of this software**

The main software will be produced entirely as a program on devices or an application. Users can download it on their phones, computers, iPad and even smart Tv’s to a point. Depending on the device some features may not be available due to capabilities restriction, for example a tv may be too slow to implement some aspects of the program. The software will be sold to smart fridge companies or will be working in partnership with other companies to either integrate this software or expand on it further to suit our needs. However, selling the entire program as a whole will not be an option as it will be an exclusive program which holds up against competitors. If it is sold to other companies, they can describe to us what features they would like to include and they if they want to redesign the program that can also be granted as long as Ready\_Or\_Not brand is advertised. As this software gains popularity around the world suggestions will be given and features will be added along the way.

**Main Software**

The software includes a barcode scanner which scans the item and finds it online with all its product information. This can be directly taken from the manufacturer of the product, and it will copy a quick summary of the information and it will post the link and the location of the manufacturer.

**How the barcode scanning works**

* **Every product will have a UPC barcode which identifies what product it is and its details**

The way the software identifies items is through barcoded items. If you go open your fridge right now you can see almost all your foods in there have a “UPC” (UNIVERSAL PRODUCT CODE) barcode printed on the packaging. Matter of fact anything that you buy from any grocery store, especially Coles, Woolworths etc., use a UPC barcode to identify their merchandise. This is so business can keep track of their merchandise and to provide an easier more faster check out.

The software is also integrated for fridges and or cupboards to keep track of foods and items stored. The way this will work is, if the software is integrated for a fridge, it will act as an interface for the fridge on the fridge smart screen. Users can bring the product code up to the interface and it will scan it and scour the internet for its details and information and where it has come from. From there users can also choose what to do with the item, either flag it as an ingredient for a food they are cooking or an item that is going to be stored. The software will list calorie and ingredient information if it’s going to be cooked or eaten, if it is going to be stored it will tell the suggested temperature and location that it will need to be stored at to stay perfect. You can also go to the storage in the software and add items that you must see what foods you can make with what you have. This will allow the software to scour the internet for every possible combination of ingredients to see what foods you can make.

Items that you add to the software are also stored in a database so that they are saved for faster load times next time you scan the item. Items that you use the most will be added to favorites and every month the software will let you know what foods, ingredients and dishes you are favorite and are used the most.

**Additional features**

Some features which may come with the software include a water reminder. For example, if software is integrated into a smart fridge, it will have a drink water reminder letting you know when you need to drink water. The way this will work is store how much mL of water you drink depending on how much you fill your cup from the fridge.

Another feature is storing item prices. Each item scanned will see how much the average price for that item is, and the more items you store in the storage of the software it will add up the estimated cost and how much monthly it would cost you to maintain your items that you store.

This software can take advantage of the internet of things and become a part of the households’ devices and combine them into one. It can use smart watches that monitor health and smart alarm clock to monitor sleep schedules to provide the best possible food item suggestions to help boost our health. It will be able to use the environment for a better understanding and management of food items that is scanned.

Shopping lists can be added into this software to ensure users never forget what they need at the supermarket, you are able to add items and can even directly be relocated to a Woolworths or a relevant store to order that food directly.

Meal planners, decides what’s for dinner so you don’t have to stress and keep thinking about it. It can randomly pick out a recipe for you to enjoy.

If the software is integrated as a fridge software, it can link to a maps app and know when you are on the way home, so it will stop freezing certain foods or lets foods become warmer so when you arrive home, they will be ready to prepare.

**Example of the software**

You open the software on your phone or a fridge or any other device, you scan the item: “cooked tomato pasta” the item will be added to the software and record the current date and time and adds the products expiration date, so we never stale or spoil the food added.

**Software disadvantages/issues/restraints**

* UPC barcodes can be the same for the same brand shampoos. For example, heads and shoulders could have the same barcode for 2 of their shampoo brands. This is a issue when it comes to storing items in the fridge it may not recognize the item and will have trouble giving accurate results. This can be overcome with RFID tagging where RFID technology is able to give every product a unique identifier representing the product name and expiration date however, RDID tagging is most common in expensive clothing and higher value items as it costs about 10 cents a tag while UPC tags cost around 1 cent to implement, so generally food item manufacturers won’t opt out to RFID tagging.

**Tools and Technologies**

To make this software suitable technology is required. A suitable fast CPU with enough gigahertz to be fast enough. Enough RAM since this is a software developing project, we are going to need at least ATLEAST 16 gigabytes of RAM. Display is not a big problem as of developing this project. We would need an SSD for them fast data retrievals and quick boot ups to get to developing this project faster. GPUs aren’t of interest as well as we aren’t making application for graphical applications.

**Skills Required**

There will be a whole list of skills required to complete this project and to actually produce a working software.

1. **Coding languages**

This software will be very complex so coding languages such as HTML, JavaScript, CSS, Python etc. not knowing coding languages will make us struggle to even start on this project. It’s important to specialize in coding languages in order to add all the features of this software.

1. **Database knowledge**

Databases allow us to organize structure and information or in this case, food items and data on the items, we will need to know how to search for information to input these lines of information into a table format and organize into a secure database to use in our software.

This software source code is called structed query language (SQL).

1. **Data structures algorithms**

This is for storing information into a database while algorithms describe the process required to complete a task. We will need to know how to pick out data structures and algorithms to determine which combination can optimize the programs code.

1. **Testing**

Every software in the world undergoes a testing process before a company releases it to users or consumers. Its just knowing how to test the software and using the correct digital tools to ensure that the software works and fulfills our design requirements.

1. **Debugging**

Debugging is for our code part of the software. This is where we remove errors in our programs code and address them without problem-solving skills to determine where the error is occurring. Its important to know strategies for removing errors and develop an effective process to making sure the program works effectively.

1. **Operating systems**

Operating system knowledge will help us understand how our software will run on different devices. It will help us conduct testing procedures and change lines of codes between them to fit the operating system.

1. **software frameworks**

a software framework is a application that developers can use to create a program using information such as lines of codes that you already wrote before from other developers. Each operating system has a different framework. We will need to know different types of frameworks so that we have a wide variety of options to pick out from and develop our software in the best way possible.

**Outcome**

If the project is successful, we will see the food, cooking, health industries change for technology and software that provides them with the features that this software has. Not only will people stop paying specialists and all these other sources of health monitors, but they will also rely on this software to provide them with their dietary needs daily maintaining their healthy lifestyles. This software will dramatically make their lives easier. This will change the industry completely. Health practitioners and diet specialist will be less in demand. Even gym memberships will be less sought out after as this software will cover most weight loss and goals of health enthusiasts.

**IT Professional Interview**

**Please tell us about your IT work. What exactly do you do?**

OK well I [Stirling Rank] am the Chief operations officer at a company called Void Interactive, which is a software company operating out of Highland. I founded the company in 2017 with two with like three of my business partners, one from New Zealand, one from Australia, one from the United States.

We handle the development of software and in this case, video games.

**Please tell us about the industry you work in.**

So, the industry I work in strictly at this point is video games. Although we have branched out into many other avenues such as data analysis and you know other multimedia, some virtual reality as well for training purposes, but primarily I'll just talk about video games.

With the video games, the industry is large, it's probably the biggest in terms of revenue and actual profit. It's probably the biggest industry compared to, say, film and TV and music. Those industries combined still generates less money than video games. So, it's quite a large industry and it's obviously catering to a big demographic of people such as children and young adults.

So yeah, that's the industry that I'm in and it's got quite a lot of different disciplines, you know, and it stretches across a massive amount of different skill sets, stretches across a bunch of backgrounds from legal to media and advertising to the programming and I do a bit of everything essentially and obviously like nonbusiness days and management and investment there.

**3. Who are all the different people you interact with in your work? Please tell us about**

**them.**

We've got a team of people to do something specific. We haven't payment people essentially like it's a, it's structured in a way where you have, you know, your superior management. So, we have other management, and we just have the work force, essentially the direct workforce. So, I’ll be interacting directly with management, who then interact with our programmers leading the team in the right direction.

So, you know the art leaders, the people of the guy who does like the level design and the character script out and everything, he will make sure everyone does their jobs. The programming manager will be the first to make sure all the programmers do their jobs.

They talk on a more specific basis, so they'll handle all the tasks. They'll make sure that all the tasks are being done by the right people and they're all being tracked correctly and effectively and being updated effectively. I also work with obviously the C level, so C type of executives like the CTO, Chief Technology Officer and the CEO is the Chief Executive Officer. I'll work with them closely as well, to make sure we are meeting any struggling deadlines.

We also meet to discuss how the business is going in a certain direction, how we're going on a technical side and like a large scale, you know, any new investments we want to make, usually things like that. So, it's quite broad spanning.

Occasionally I'll just jump in and work directly with some of the guys as well because it's good fun.

That's also something that I do. I'll work with certain people on a more individual basis. Well, I'm the chief operations officer. I do like to work directly with people because it's more enjoyable for me.

It’s good to know who your team is. You know, I know my entire team on a first name basis, I know their last names even some parents and parents' names. It's important to me to have that kind of engagement you think.

**What about your interactions with clients or investors?**

A lot of flying, you know, I've been to Europe for a long while now because we've been meeting with business partner. No, I can't say who they are. But you know, they are people that that help us you could say. Producer production of that title. Some to do with like forwarding our titles for consoles, some to do with moving our game off 1 store online to another store online or not moving them off but splitting it up so you can sell them across different platforms. Oh sorry, I meant in the sense of different like mediums on PC.

We don't have any investors right now. We are fully self-funded, but we have always met with people who we may invest in, and we'll also meet with people that we are looking for investment from our sense of like potentially entering partnerships taking a company to a different level.

Sometimes they're good opportunities. You know, we've made some strategic investments in the past. For example, we made a strategic investment into a data analysis company called ‘Look’ at just the social media for streaming and stuff, online video games. And it was a 1.4-million-euro investment.

Getting a feel for people in business is important to know. The people we’re operating with, what they like, you know, who are they? How are they going to compliment your office? They may go against your ethics. That's really critical.

**What aspects of your work do you spend most time on? Please tell us about these.**

My work, I think most of the time is spent managing.

I'm always making sure that we're tracking correctly with the ready or not the video game. I'm also ready or not game director because I really enjoy doing that. It's good fun. I do a lot of, you know, writing the stories and working with people, with the right dialogue. I don't write the dialogue myself on the people in game, however.

And I then make sure the work that is being produced is of a good standard like good quality and fits what I want to see in the game myself.

That's kind of the focus for me, and, on a more personal level, it's fun too, but I'll keep to myself today if I'm not doing anything anymore, executive or that kind of stuff. I'm typically working on new projects, but it’s a passion for me. I'm very lucky.

**Which aspects of your work do you find most challenging?**

Helping set a deal or negotiating with people on its own, even outside of the company but I do not usually do that.

The cost benefit ratio is the cost value of someone, so you know they're worth this much and they live in a certain country, and they do this much work in a day. You know, is it worth it or should we look somewhere else for the same cost? You know, I mean cause some people are not as cheap as you would expect to be, which you expect them to be cheap are now charging their money because of how globalized we are becoming. And with the Internet making it a lot easier to find work and get paid accurately for it. So, these people are living well, which is great, but it means that it's like, well, why look in a low-cost country? They're going to charge the same as a high-cost country.

So, there's a lot of, discussions and negotiations, probably the hardest part of the job and some of it is also finding time to do other things only, not only focusing on work, but you also get wrapped up in it and you get into a trend like mindset of I'm going to do this over again and then it gets a bit extensive.

**Finally, can you share an example of the work you do that best captures the essence of**

**the IT industry?**

The IT industry work that I do, I mean I couldn't really tell you because a lot of it is like kind of back-end stuff in that project. Video games like these, you know, it's all back end, technically it's ‘under the hood’. I'm not sure if I could share anything.

In that sense, I can probably give you files of data statistics and analysis we used in the project.

It’s 4000 different files and I don't know. I can't really give you the picture. I think I agree with that, but hopefully that helps you know, hopefully gives you an idea of this aspect because it is a big aspect of video game, so just don't have a Direct Line into it.