

# Introduction to Information Technology

## Assessment 3: "Our IT Project"



Submitted by the members of

**THIRTY SEVEN**

### Important Links

[Group Website](#)   [GitHub Repository](#)   [Microsoft Teams](#)

# Meet the Team

We are the students that form Thirty Seven, collaborating together to present our first group assignment for the second assessment for Introduction to Information Technology at RMIT. We came together on deciding on a team name during our first Teams meeting where the four of us first met together, deciding to choose a name that represented the group we were classed in for this assignment, as it's simple and straight to the point and identifiable.

Click below to read about our team and our story, what got us in Information Technology and how we analyse ourselves in a working environment with other team members. We also compare our ideal jobs to determine the stages we are at and what we need to do in order to get to where we want to be in the future



Keaton Ferber



Dean Heighway



Sean Heighway



Nelson Kun

# Keaton Ferber

Student ID: s3952394



My name is Keaton Ferber, I live in a small town in rural SA. I graduated Year 12 in 2014 and have previously worked as a cellar hand at a local winery for many years. My main hobby is playing video games, its something I've enjoyed since I was very young. I also enjoy watching movies, TV and anime. I'm a huge Star Wars fan and my favourite movie they have released is Star Wars: Revenge of the Sith. My friend got me into watching F1 in 2020 and I've been following avidly since. I root for Ferrari and my favourite driver is Charles Leclerc. I love cats and have a cat named Ezra; he keeps me company.



My interest in IT started at a young age. My interest with technology started with playing video games on our PlayStation 2, but I also spent a lot of time on our family desktop computer. I've always found computers fascinating and enjoyed tinkering with them. For my research project in high school, I built my own desktop computer. I really enjoyed the process and still build and upgrade my PCs to this day. I chose to study at RMIT as I was looking to Study IT through Open Universities Australia (OUA), and RMIT was recommended. I expect to learn the skills required for my chosen career.

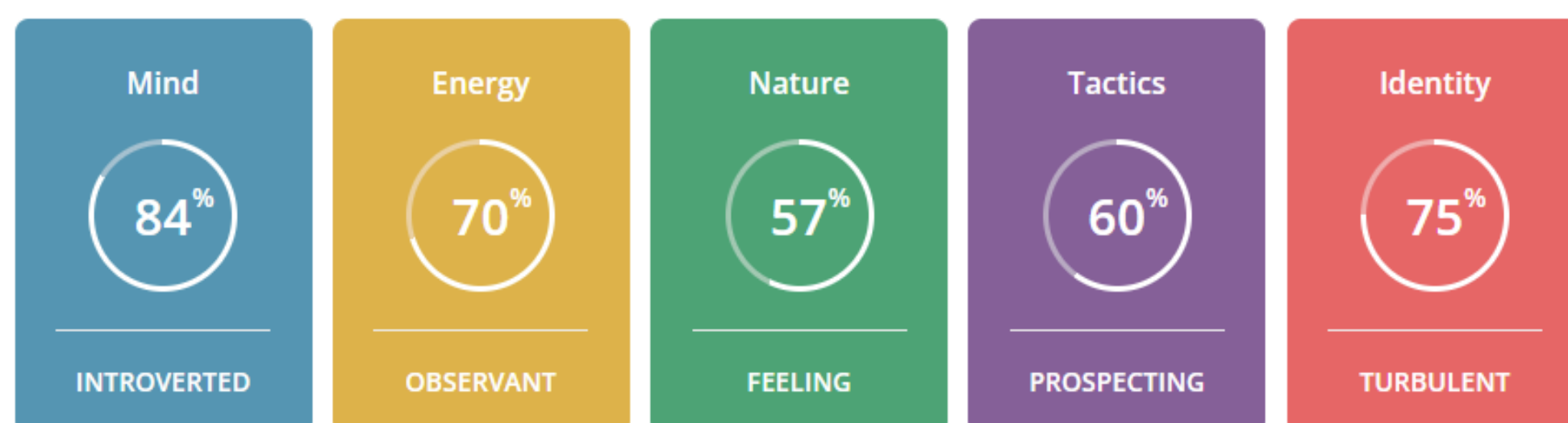


## Personality Profile



TYPE:	Turbulent Adventurer	?
CODE:	ISFP-T	?
ROLE:	Explorer	?
STRATEGY:	Constant Improvement	?

## Personality Traits



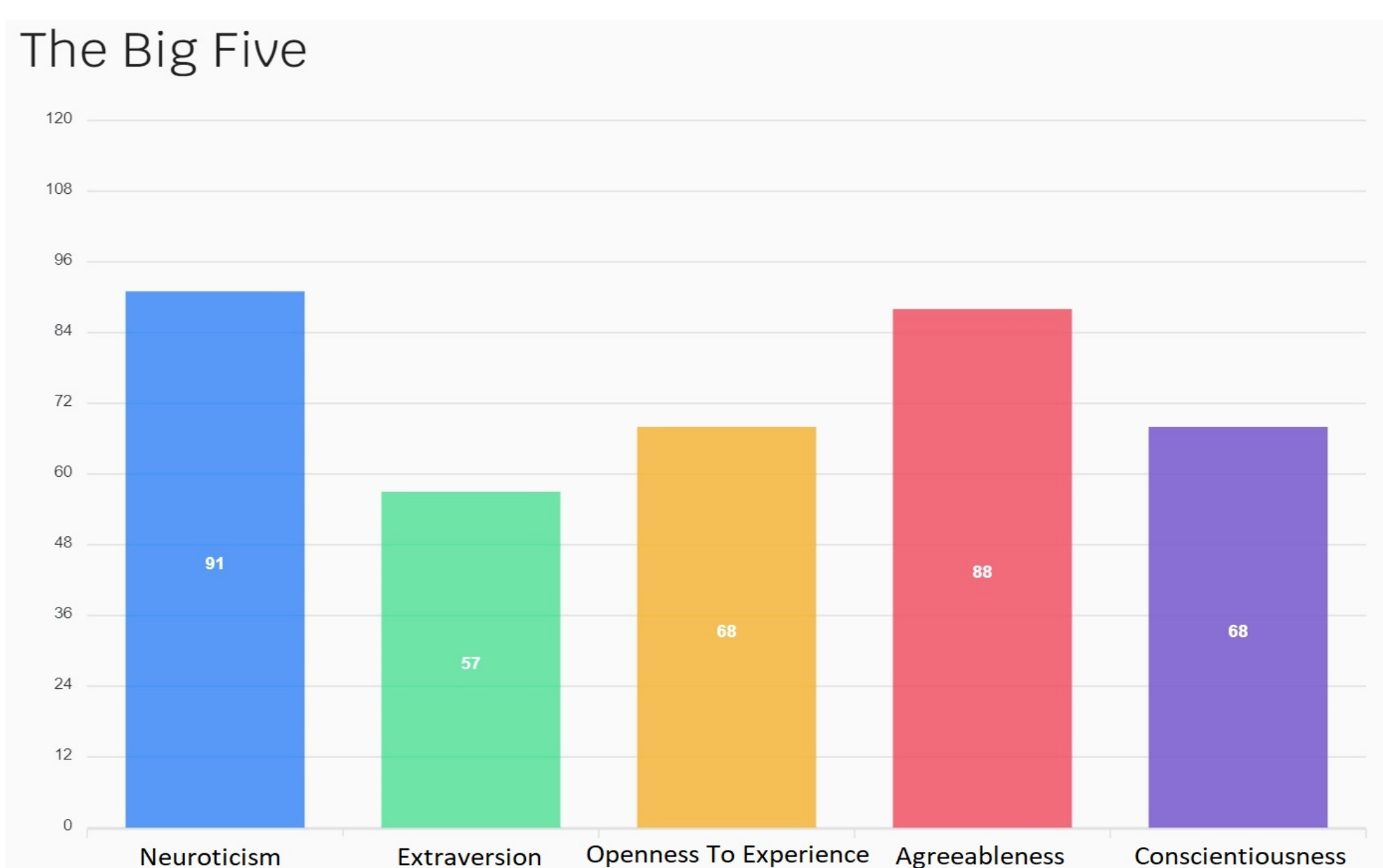
My results for the "16 personalities test" showed that my personality type was a "Turbulent Adventurer". According to the test my 5 dominant traits were, Introverted(I), Observant(S), Feeling(F), Prospecting(P) and Turbulent(-T). Due to having the shared personality traits of Observant and Prospecting I have the role of explorer. As I have the shared trait of Introverted(I) and Turbulent(-T) my strategy is constant improvement. The mostly introverted result is no surprise to me as I've always been an introverted person. I often keep to myself and prefer not to go out too much. Observant personality types tend to focus on what's in front of them, which makes them focused and functional. Feeling personality types tend to be compassionate and follow their emotions. People with the prospecting trait tend to be flexible when dealing with challenges, they tend to adapt to the situation rather than control it. Turbulent personality types tend to be success driven and can get caught up in the details.

## What's Your Learning Style? The Results

Your Scores:

- Auditory: 35%
- Visual: 40%
- Tactile: 25%

In the "learning style test" my results were 35% Auditory 40% Visual and 25% Tactile. This is a mostly even split with me being slightly biased towards Auditory and Visual learning, and slightly biased against Tactile learning. Some things I can utilise to get the most out of visual learning is avoid distractions when studying and visualise things I hear. For the auditory aspect when reading aloud is important to make sure I remember the information.



The Big 5 personality test takes into account factors in "The Big Five" test I scored High in neuroticism and agreeableness and low in Extraversion, Openness to experience and conscientious. I tend to think I get along with almost anyway and my high agreeableness reflects that. High agreeableness also means I care about others and assist when needed. The low score in extroversion correlates to the previously mentioned introvert personality type. People with low openness tend to be more practical and conventional in their methods, as well as not being as creative and imaginative. I struggle with creative work and do better when the work is more structured. Scoring on the lower end of continuousness means I need to work my organization skills and plan better as these skills are lacking. The high neuroticism tends to mean they are prone to stress and anxiety, which I can relate to when in high pressure situations.

## How this info helps the team

My high agreeableness means I will work well in a team due to being highly cooperative. I also believe being empathetic to my teammates will mean I will be able to avoid any conflicts. In a group due to being introverted I will most likely not be the chattiest person and will tend to follow rather than lead a team. Knowing this someone else should be a leader in the group. Due to my lower continuousness score it will be best if others handle the organizing side of group work.

# Dean Heighway

Student ID: s3925053



My name is Dean Heighway and I'm a 27-year-old born in Australia and of Australian decent, in my lifetime Ive only ever spoken English and I've learned beginner levels of Italian. My highest level of education is finishing the HSC and also, I have completed a semester of a Bachelor of Nutrition.

I love all sports but have a keen interest in cricket, currently my season has just finished last week as my team lost in the semifinals however, I am enjoying watching the current tour of Australia to Pakistan.

My interest in IT stems from a long history of video games and love of computers, ever since I was four years old, I remember playing Warcraft 2 and StarCraft with my dad in his spare time and from then I was hooked in gaming. Over time my love of gaming developed into wanting a further understanding of the ins and outs of computers and the how and why of games; what powers them? How are they built?

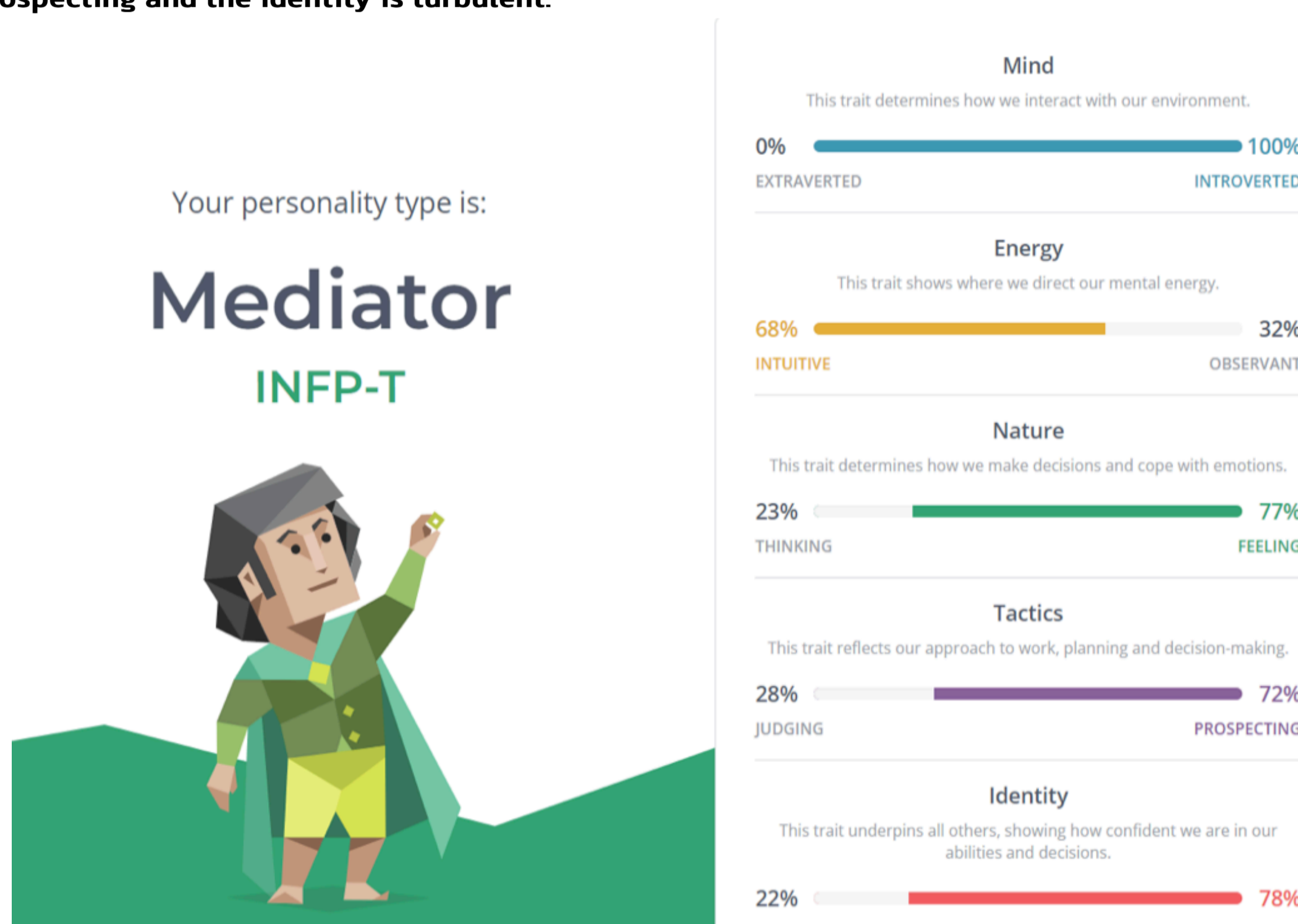
I have worked for 7 years at Coles where I was developing a career there, starting as a casual for a few years then I moved onto a bakery manager at my first store and then only 6 months later I was promoted to a larger bakery. A year on from that and I was made Dry Goods (Grocery Manager) and was responsible for around 700k in sales per week, after 6 months in that role I decided a career in Coles wasn't for me so I started working towards this course in the meantime.

I have very limited IT experience at the moment but its quickly growing throughout the duration of this course.

I choose RMIT for my studies as it is one of the leading IT programs in the country and it also offers the convenience of online study, being someone who works full time I can't attend standard university so I opt for the convenience of online. I expect to obtain a greater understanding of how computers work both internally and externally as well as a deeper understanding and competency of programming languages.

## Personality Profile

I completed the online test for MBPT and got the result of INFP this means that I am introverted with an intuitive type of energy with a feeling nature. The tactics that I use are prospecting and the identity is turbulent.

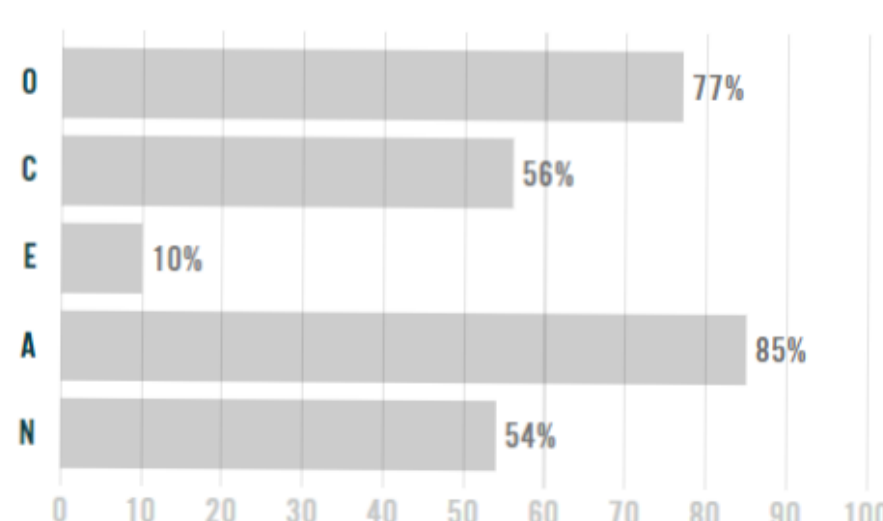


I then completed a learning style quiz with a very split set of results: Auditory learning was 30%, visual learning was 35% and tactile 35%. From this result I learned that things that would help me the most would be visualizing that I hear, writing down key words ideas or instructions and importantly avoiding distractions during my study time. For the tactile side it suggests hands on learning and taking short sharp bursts of study periods as well as using a computer to reinforce learning through the sense of touch. In a team environment this could potentially clash with someone who takes a more structured approach to work, where they chip away at the work over longer periods of time instead of brief bursts of productivity, this would be overcome just by getting a better understanding of one another and create the understanding that people operate differently.

Lastly, I did a big five personality test at truity.com and it measured my personality to be OCEAN: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

### Your Personality Trait Scores

This Big Five assessment measures your scores on five major dimensions of personality: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (sometimes abbreviated OCEAN). Check out your scores on each of the five dimensions in the graph below, then read on to discover what each score means.



#### Openness

Openness describes a person's tendency to think in abstract, complex ways. High scorers tend to be creative, adventurous, and intellectual. They enjoy playing with ideas and discovering novel experiences. Low scorers tend to be practical, conventional, and focused on the concrete. They tend to avoid the unknown and follow traditional ways.

Openness is strongly related to a person's interest in art and culture. People who are high in openness tend to enjoy the arts and seek out unusual, complex forms of self-expression. People who are low in openness are often suspicious of the arts and prefer to focus on more practical pursuits.

#### Conscientiousness

From these tests I can deduce that I am an empathetic individual who works well as a team and doesn't cause problems or have personality clashes. Within a team environment I believe that this makes me a great asset as I would stay on focus and be able to contribute to the project through my own ideas and contributions as well as being able to bring the best out of others. I think when forming a team to mix with my abilities it would be great to get someone who is very structured with their approach, someone who is a bit more extraverted and more direct with their ideas and the direction they want to take things, I believe that opposites work well together and that is why a person with those attributes would be great alongside me so that we can cover all the bases for a great team.

# Sean Heighway

Student ID: s3925054



**My name is Sean Heighway, I'm 27 years old and since graduating high school in 2012 I've been working full time in the hospitality and management sectors. I've always had a keen interest in all things technology whether it be video games or even just the components used to build and run a computer.**

**I come from an all Australian only english speaking family, we are a small but close family who love getting together and celebrating all family milestones and special events throughout the year. As far as my education goes I completed my high school certificate in 2012 and since then have completed a couple of units in a bachelor of nutrition before changing to this IT course to follow my true interests. I love all things cricket and have been playing with the same group of friends for the last 10 years in our local competition and just can't get enough of it whether it be watching the games on tv or playing every saturday in summer.**

**My interest in IT came from a very young age from when I was about 6 years old I remember playing on a very old computer with my dad playing the first Warcraft game that was released and ever since then I've had an enormous interest in video games, how they work and how I can get involved in the creating of games. I would say my primary interest in IT is in the gaming sector of it however since learning about python and how to work and code in python I can say that I find it very interesting and satisfying to write a code and see it come to life!**

**I chose RMIT because one of my friends recommended them to me and after doing some research I see that it has an awesome reputation and can provide me with everything I need to succeed in a career in IT.**

**I expect to learn a lot about IT in particular coding and programming using different languages and how to use that to develop projects such as maybe games and fix real world problems.**

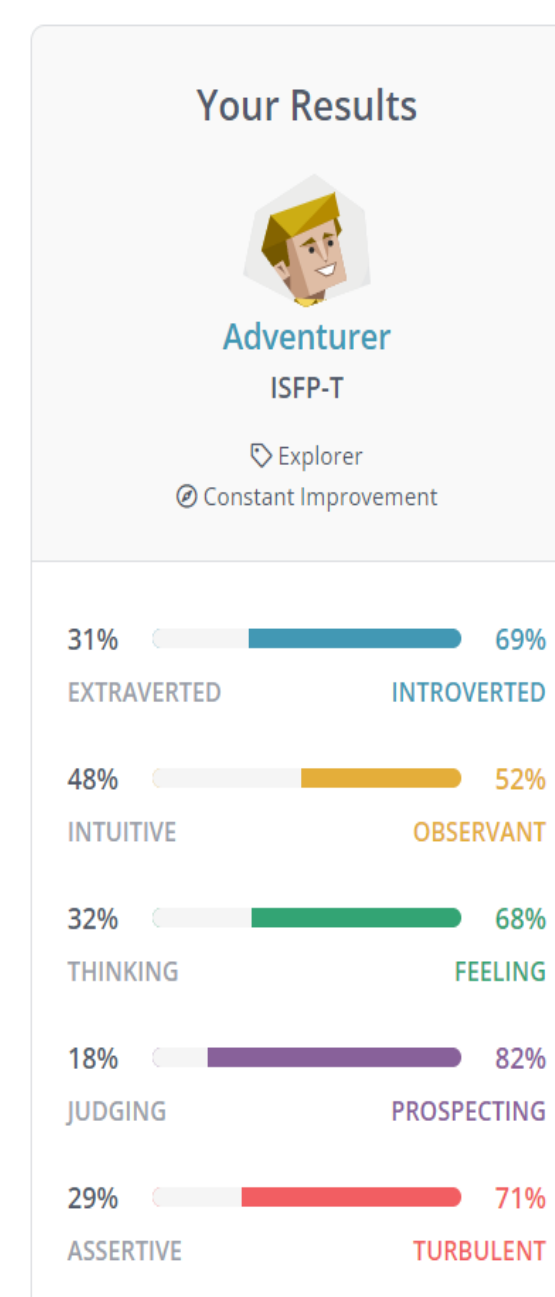
## Personality Profile

### Introduction

*I change during the course of a day. I wake and I'm one person, and when I go to sleep I know for certain I'm somebody else.*

BOB DYLAN

Adventurer personalities are true artists, but not necessarily in the typical sense where they're out painting happy little trees. Often enough though, they are perfectly capable of this. Rather, it's that they use aesthetics, design and even their choices and actions to push the limits of social convention. Adventurers enjoy upsetting traditional expectations with experiments in beauty and behavior – chances are, they've expressed more than once the phrase "Don't box me in!"



**My results for the myers briggs test gave me the ISFP result, saying that I'm introverted, observant, feeling and prospecting. The strength of the "adventurer" personality type are as follows; charming, sensitive to others, imaginative, passionate, curious and artistic. The weaknesses are; unpredictable, independent, easily stressed, competitive and fluctuating self esteem.**

**My results for the learning styles was that I'm a tactile learner; meaning that I learn by touching and doing things for myself so that I can get a grasp of what needs to be done.**

**I took a creativity test next and scored a 71.59 whereas the average score was 62.87 the graph was skewed more towards paradox and complexity. Paradox meaning I have the ability to both accept and work with statements that are contradictory and Complexity meaning that I have the ability to carry large quantities of information and be able to manipulate and manage the relationships between such information.**

**These tests mean that I'm a creative person that works well while understands the needs of others which would make me an ideal team player whilst also being competitive to help bring out both the best in myself and those in my team. When forming a team to work with I would look for other with similar personality types and natures so that we could gel together well and help each other be the best versions of ourselves as a team and deliver the best results possible. I would also look into not grouping up with people that don't respond well to a competitive nature. I believe the results based on previous experiences at jobs and social events are very valid and can be used to help form good partnerships for group projects.**

# Nelson Kun

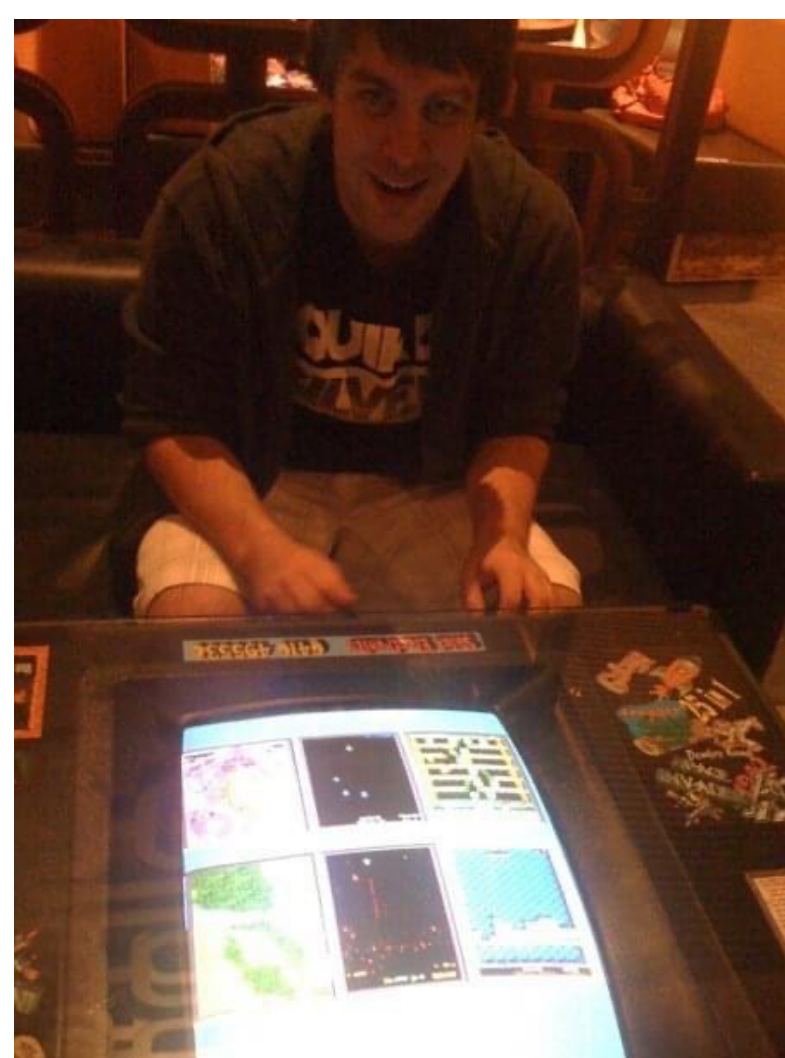
Student ID: s3941193



I'm an enthusiastic and positive individual that strives to do right by other people and also expect the same in return. I enjoy some sports, my hobbies range from playing golf to video games. I've spent the pandemic learning to broaden my culinary skills, developing my digital skills and learn new things and look forward to returning to the tropics, such as Thailand and Fiji. I was born in Melbourne and am descended from European migrants during the First and Second World Wars.



My interest in IT stems from a relatively young age, by being mesmerised by the Sega Master System in the early 90's and exhibiting sensational rage-quitting skills to my parents, and developing a love for the art and design component of game design due to the visual display of Yoshi's Island and Donkey Kong Country 2 on the SNES. I recall a significant moment playing Yoshi's Island on Christmas morning in 1995 and my family and I struggled to proceed from a certain point in the first level and being able to overcome this obstacle in this level holds dear in my memory that will always return me back to that moment and where my real interest in IT began from - the solving of problems. Playing these games beyond what would be reasonable hours of an eight year old, I felt I had discovered my passion which I had never professionally realised yet and strive to follow a path and that is what motivated me to enrol at RMIT and study Information Technology - better late than never!



## Personality Profile

The Myer's Briggs test is an individual analysis how a person would interpret the world. Gauging from these results I'm a relatively balanced individual, classed as an advocate or as "the counselor".



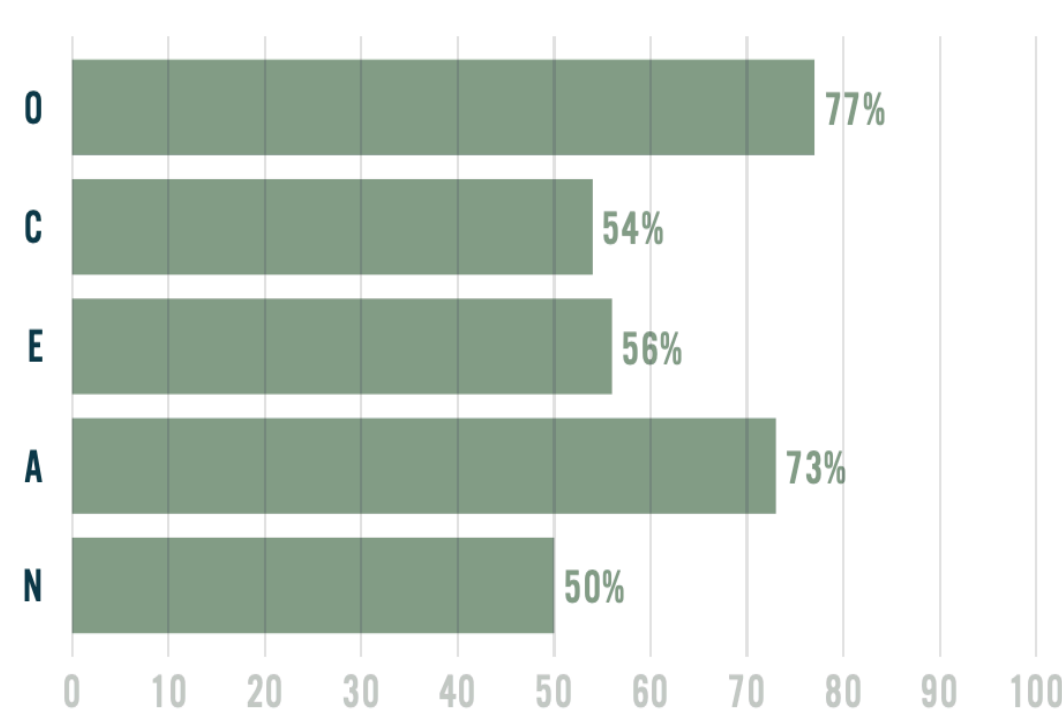
It's regarded as the most rarest personality type with estimation showing it represents two percent of the population, and being linked to notable figures such as Nelson Mandela, Martin Luther King and Mother Theresa. Advocates are people that look for a purpose and have the sense they don't always fit in with those around them. As they generally care about others more than their personal gain, being an advocate is something that would be reliable within a team and ensuring a project is completed for the collective - and not the individual.

Your responses indicate that your preferred learning style is **Tactile/Kinesthetic**

Being an individual that learns in this method provides a confirmation bias that I am an individual that requires relatively constant stimulation to learn, as I do prefer being hands on, engaged and having the opportunity to demonstrate those learnings. Learners under this style tend to get bored easily and restless and require movement in order to learn, which relates back to the way I learn and practice, as well as an interest in sports and physical activity. Translating this towards a working environment is reflective of the way I conduct myself as I would consider myself very hands on, from actively engaging with clients, mentoring new employees to facilitating projects within the organisation as a project lead.

## Your Personality Trait Scores

This Big Five assessment measures your scores on five major dimensions of personality: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (sometimes abbreviated OCEAN). Check out your scores on each of the five dimensions in the graph below, then read on to discover what each score means.



The Big 5 personality test takes into account factors that form an individual's personality and how they interpret the world. Based on this test, being open and agreeable are the strongest factors in my personality, which makes the working environment cohesive and easy to work with in a team setting. This provides optimal momentum in being able to navigate dynamics that may provide barrier in completing work required and being agreeable provides that further understanding and a sense of altruism which is important in an effective team environment, and relates back to being an advocate under the Myers Brigg's model.

# Group Processes

During one of our meetings, we were discussing and expanding from our group reflection as per assignment 2, on what could have been done different, what worked and felt it best to present our discussion based on improvements on group processes in this format.

Ultimately it was made clear that the processes in our previous assignment worked well and felt there was little to change, using the channels established such as Discord and Teams. Group organisation on referencing was seemingly the only improvement that could have been highlighted as well as more exposure to certain programs, such as Photoshop, Dreamweaver and Adobe XD, which undoubtedly will come in time beyond this unit of study.

*You can click the Youtube video screengrab to be taken to the Youtube channel and listen to our collective thoughts on our processes. It can also be viewed on our website.*



# Career Plans

## Keaton

At the beginning of this course, I had no specific career in mind other than I wanted to work in IT. The demand for skilled workers in the IT industry across the board is growing and is one of the main reasons I want to work in the industry. My intention was to try a bit of everything and to see what parts of IT I enjoyed and what I was good at. I'm still unsure on exactly what part of the IT industry I want to work in in the future, but at this stage it will most likely be focused on developing software. So, my potential ideal job remains the same as previous assignments, C++ Programmer/Game developer. Below is an outline of my career plan.

Career Opportunities	Where I am at	What I need	Skills to develop
C++/Game Developer	<ul style="list-style-type: none"> <li>Studying introductory IT courses</li> </ul>	<ul style="list-style-type: none"> <li>Degree related to software development</li> <li>Bachelor of Computer Science</li> <li>Bachelor of Information Technology</li> <li>Bachelor of Software Engineering</li> </ul>	<ul style="list-style-type: none"> <li>Javascript /C# Programming</li> <li>Skills working with game engines e.g Unity/Unreal Engine</li> <li>Experience with source control tools</li> </ul>

## Dean

When I first started this subject, I came in with the idea of being a games developer but through my learning in the subject I have gained a respect for the depth of career possibilities in the world of IT. Learning through our weekly subject I have been particularly interested in machine learning and some outside research brings me to an interest in data analyst style role. However, it is still up in the air with what I want to do at the end of this course I'm just looking forward to building upon my skills and toolset in the IT space and trying to get good at many subjects and decide what I want to do from there.

## Sean

I started this course with the ambitions of becoming a game developer, but as the course has progressed further and further I've become interested in every aspect of the course so far and want to expand my horizons and just thoroughly go through the entire course and carefully pick which career path aligns best with both what I enjoy doing the most and will have the best future career wise. I believe the best course of action for my studies and future is to complete my degree here at RMIT and choose a fitting postgraduate degree to align with my goals and desires upon completion of the course.

## Nelson

Prior to beginning this course I had a generic understand what IT was and how it forms part of our everyday life. The portions of certain industry grab my attention such as gaming, blockchain and lead me to the rabbit hole of learning more on software engineering and the demand and pre-requisites for those particular roles. While progressing on the third assignment, I spent some time familiarising with Adobe XD with app development and in the roles of UI and UX design it has broadened my view of roles that extend within the design field. I do digital design and art in my downtime, as a hobby and for clients and it is a field that doesn't feign interest and further on I envisage to explore more of these positions as possible.

While also (and attempting to juggle my commitments as best as possible) diving into Intro to Programming, it gave me greater scope of the skills and requirements to be associated with doing UI and UX design, and before doing this unit it's helped make a few things clearer in terms of a direction I would aim to work towards.

Furthermore, it's made me assess where I could potentially look for as a career, gauging from the learnings done in the previous assignment, how the demand for software developers and engineers are forecasted to be in great demand and the path on developing a career in that has at this time made me re-evaluate my current trajectory.

In the interest field of becoming a **User Interface Developer**, there are career pathways outlined on Seek.com.au where there is offerings of a Bachelor of Computer Science available at Deakin University as well as RMIT University, both in an online/on-campus capacity. Given my commitment to graduating at Griffith University on completion of my Bachelor of Business degree, the focus for myself will be to further explore these offerings of Computer Science and undertake personal projects in application development and further work on a portfolio. I also aim to further enhance my skillset with becoming more comfortable with Adobe XD, either through boot camps, short courses or by self teaching methods as I had done with other programs.

From where and when I compare my initial standing when I began this unit of study I can say that I am surprised that I find myself more aligned to learning more about app development and have to say this has been the highlight of my experience with this third assignment.

Here is a proposed career plan I've developed in order to guide myself in learnings and requirements needed with the hypothetical career I've re-aligned myself to. Anticipated timeframe is five years, due to my commitment to the Business degree I've currently enrolled in.

Career Opportunities	Where I am at	What I need	Skills to develop
User Interface Developer	<ul style="list-style-type: none"> <li>Studying Bachelor of Business</li> <li>Automotive industry</li> </ul>	<ul style="list-style-type: none"> <li>Bachelor of Computer Science</li> <li>Bachelor of Information Technology</li> </ul>	<ul style="list-style-type: none"> <li>HTML &amp; CSS</li> <li>Javascript /C# Programming</li> <li>UI/UX Design portfolio</li> <li>Software development methodologies</li> <li>Front End UI development</li> <li>JSON, Node.js &amp; Vue.js proficiency</li> <li>Bootstrapping</li> <li>Wireframing</li> </ul>



# Project Description

## Topic Overview

ShopMate is going to be designed to be a multipurpose shopping and nutritional app created to ease people into things such as shopping, keeping track of your inventory in your kitchen, suggested recipes based off your ingredients and even nutritional tracking for macronutrients. The first feature that the Shop Mate team plan to implement is a basic shopping list, just simply adding products that you need to a list and storing it for later use when you go shopping. Later revisions of this feature will update to possibly include integration into online ordering at Coles or Woolworths, so with the click of a button you can add to cart what you have on your list for an online shop.

ShopMate is an easy to use mobile app that can provide the user fundamental tools to assist them in creating a healthy meal with ingredients on hand, where a time-poor consumer may struggle to think of a meal to prepare, ShopMate is there to give the spark of inspiration in preparing a healthy, yet delicious meal without the need of going to the grocery store. Its intention of use is to be a multipurpose program where grocery shopping can be automated based on previous shopping experience, providing a nutritional guide and being a portable recipe on demand. By doing this, it supports local businesses - large and small, it provides the consumer a reliable necessity to have on hand and it has a functional utility that serves a purpose. A byproduct by having this on hand will provide recommendations on what to make and for consumers to track what is in their inventory, creating a byproduct, of reducing food waste.

## Motivation

The motivation behind our project Shop Mate is the idea of having a whole collection of amazing features at your fingertips. Inspiration was drawn from the MyFitnessPal as well as ideas drawn from the convenience of online shopping. The amount of times where I'm stuck for ideas for dinner and can't think of anything to make and wish that I had an app that would tell me what I can make with the ingredients that I have in the house. This is where the idea sparked for Shop Mate, an app where I could just put in the ingredients that I have in the kitchen and then I get a list of recipes available for food that I have. The app obviously is a high demand task that will require multiple revisions however with phase 1 of the app coming in the form of a simple shopping list. Having an interest in nutrition through a brief period of study as well as an interest in fitness, I'm fascinated by the idea of tracking macronutrients and the idea of having an app that brings the convenience of online shopping together with a stored database of available products with their given macro nutrients is a huge motivator for the app too.

## Landscape

In the market of apps that are available, the closest competitor is a program called KitchenPal. Admittedly, before completing the first group assignment, the team felt the concept of ShopMate to being truly unique, with the implementation of macronutrients, a business plus feature - it really seemed that there wasn't a platform like it. However upon further exploration, KitchenPal repeats some of what we considered innovative functions, but at the end of the day - what product doesn't have a competitor? Based on the artefact presentation of the application, its value proposition scratches the surface and leaves a lot of opportunity for the project to further expand given the vision established in the first assignment. The functionality and benefits it provides are similar, the distribution of information of meals would be more expansive, however the difference is where ShopMate's partnerships would be well communicated to our customers, such as the prospective stakeholder relationship with Woolworths, Coles, DoorDash and GoPeople. The business plus feature would be an innovative logistical solution that would support local businesses in a sense that KitchenPal doesn't, which is more geared to the individual consumer.

# Aims

## **Aim**

The aim of our project is to deliver a fully functioning shopping list and kitchen supply maintenance application. Ideally our app will have multiple features including a commercial app to aid small businesses with an easy ordering inventory management process. The app will have a home screen with trending recipes, a section where you can see what recipes are available to make based off your "inventory", make an order/shopping list, my inventory and finally our premium feature Business+.

# Goals

## **My Inventory**

This is the most important feature of the app as it brings all the functions of the app together. On first setup it will request that the user adds their inventory into the app via searching the product or by scanning the barcode. This feature will also have all necessary nutritional information as well as an option for perishable items such as chicken or milk to manually enter a preference for number of days that you want to keep it and when there is a day left on the perishable product it will push a notification through to the user. In this feature you can set preferences on what brand you like for certain products whether that would be a Coles home brand product or an item from an international section, the customisability is at the users' fingertips. This feature will connect to what to cook section as it has your available ingredients and will also be updated once the recipe is complete.

## **Trending Recipes**

This section is as the title says, based off users of our application we will make a list of recipes that are currently trending globally and tell the user what ingredients they need to cook this recipe as well as an option to quick add to cart the items that are required.

## **What to Make**

This section is as the title says, based off users of our application we will make a list of recipes that are currently trending globally and tell the user what ingredients they need to cook this recipe as well as an option to quick add to cart the items that are required.

## **Shopping List**

The goal of this feature is to provide a shopping list based on what ingredients that users have ran out of through cooking or through manual entry. The feature will also have an option to add the home brand products to the cart or opt for the more expensive versions. At any point in time if you decide that you are ready to finish your shop you will have the option to export your cart to Coles or Woolworths for online order via click and collect or home delivery as well as the speedier option through a delivery partner such as Door Dash.

## **Business+**

This is our premium feature available on a recurring subscription basis where local cafes and restaurants can connect to local suppliers to help with an easy ordering system. This feature will have the ability to liaise between the suppliers and the restaurant providing key information to the business owner on trending items that are increasing in sold volume for marketing purposes as well as the less performing products for "daily specials" options to try and push sales on the product. The way this works will be that you can send a notification to a supplier when you are running low on certain products and an algorithm will be used for your order based on the number of days you want the product to last and adjust the order based off the sales history between your previous order and time of current order considering the trends from previous orders. A report would be able to be generated to show the percentage increases in sales of certain items for example you want to see if chicken breast is selling more over the past 6 months compared to the year all you need to do is pull the report and check chicken breast to see the data on this.

# Plans & Progress

To start I will give an overview of what our team plans to accomplish with our project. With ShopMate the team wants to make a fully functional nutritional and kitchen inventory maintenance application, what this entails is many different features and these features include things such as kitchen inventory, shopping lists, smart orders based off the trends of your shopping patterns, a trending recipes function, and an option to provide you with a list of recipes based on what you have in your inventory. We also want to bring some easy ordering options and ways to optimise the user experience through suggestions on what you may need to order based on your previous orders.

The inventory maintenance application is the core feature of our application, and it is going to be the most important part. A fresh user will log into the app for the first time ever and then it will proceed to get you to input your kitchen inventory, whatever you have will be stored into a database and from there is where it is going to adapt to the user. You will be able to use your current inventory to search for a list of recipes from the database that are available to cook and if the recipe you are searching for isn't available you can add your own or even make tweaks to existing recipes and save them locally to your device. Once a recipe has been cooked you can tick it off and the ingredients used will be removed from your inventory and have an option to add them to the shopping list as well as to rate the recipe to improve suggestions on what can be cooked. The inventory section will have nutritional information on each product, and you will even be able to compare different brands to examine the nutritional information on each brand. On the note of nutritional information once a recipe is cooked it will display the nutritional information of each serve and can be added to a nutrition diary which will track your daily and weekly macro and micronutrient intake. This is the perfect app for the health-conscious individual.

We hope to make the product a cloud based service with the use of SQL databases to store most of our products information for example our recipes would be put in the cloud for ease of storage and then giving the option to load in more ingredients and recipes custom to each user.

The shopping list feature will be built upon what you have cooked and depleted from your inventory as well as a manual add option. We intend to add a feature for perishable items such as fruit and vegetables and milk where the user can put in an expiry date or a preferred range of dates that they want to keep the product for, and it will ping a notification a day prior to the expiration as well as a recipe suggestion for the expiring products. The shopping list feature will have an online order feature integrated where it will export your current shopping list and order it via Coles or Woolworths online with the option for click and collect or home delivery. We also would like to integrate a feature for a speedier delivery option with Door Dash as a delivery partner as opposed to through the store. All products that have been ordered through the shopping list feature will then be added into the inventory so from this point on the system is self sufficient and if used properly you won't have to manually add items again. After constant use the app will be able to detect trends in your shopping and ping notifications to the user regarding what they may be running low on or what items they may need to order soon and in a way pre-fill your cart before the items actually run out.

The "what to make" section and the "trending recipes" section go hand in hand as they are a similar feature. The trending recipes is just as it says, based on users around the world it will rotate through trending recipes so that the user can draw inspiration from what others are cooking and get ideas for their own meals. The "what to make" function is where the user will be able to select a meal of their choice whether it would be breakfast, lunch, dinner or a snack and based off of what you have in your inventory the app will provide a list of recipes and the recipes will be able to become more personalised over time based off of the user rating the recipes with a thumbs up or thumbs down.

Lastly of the immediate ideas for the foundation of this app we have our "Business+" feature which is designed to bring an ease of ordering and inventory maintenance to restaurants, the way we plan to make this feature work again is to load in an inventory and the restaurants recipes and through the register at the front when an item is ordered off the menu it will deduct the ingredients all the while the app will be sending inventory notes to the suppliers and letting them know what the restaurant is running low on and forecast what items will be sold and in demand. Based off of this information a report can be generated to tell the restaurant manager what items are selling really well and what are underperforming to either be removed from the menu or be marketed better or improved on as well as the possibility of including the popular items in a chef special for example.

At the current stage of our project, we are still in early development where we are designing our user interface as well as a simple program to get a shopping list available. The function of the program will be to retrieve user input and to store it as a list for shopping. As it is still early days of our development, we are still trying to learn new ways to store the information and create the most efficient programs that we can with the intention of constantly updating it as we learn more things and implement more features.

As far as the UI goes, we are exploring options of ways to create the best user experience playing around on adobe XD trying to create a clean user-friendly interface that is a modern design. We have done a few drafts and have decided on one for our apps eventual launch with a swiping design to navigate the app as well as clear labels of what features are in the app.

As we are still new in the IT space one of the "dead-ends" that we have encountered so far is our current knowledge capacity, unfortunately as a team we are all new to the IT space and as much as we want to deliver a clean finished product a heavy limiter that we have encountered is our knowledge. Programming languages at the start of our learning were completely new to us all and as our skills are developing so is our ability to advance our project.

Not so much a dead end on our project but more an overtime development we have had as a team is the usefulness of our business feature as opposed to the pantry feature, unfortunately people are lazy by nature, the idea of inputting all your ingredients into an app seems fine on paper but through trial and error and our own thoughts, the user base that would have the motivation to constantly use the app to fill their inventory into the app may be a rather small audience, having said that it still doesn't change the overall usefulness or the goals of the team. We believe however that in learning this we could place a larger emphasis on the premium business+ feature.

The business+ feature not only is more convenient for businesses as opposed to the average household as a business must constantly keep track of their inventory, but it also has a much greater marketability. The feature itself creates an ease of ordering for small business' so it takes the worrying out of trying to maintain your inventory. Not only does it make it easier for the business owner to run their shop it also tells them the important information of key products and can keep track of spikes in seasonal sales.

The project plan is slowly changing to play to the strengths of the app, at the end of the day the key thing about developing an app is to make money off it and we believe that the userbase for our main pantry function wouldn't be as high demand as our business+ feature so we are beginning to shift our focus over more towards the Business+, our phases of launch still haven't changed but we are intending to shift over towards the Business+ feature and try to perfect it as much as possible when we progress to that feature.

# Roles

Walking into app development with little to no experience can be an intimidating offset, where research goes into the success of other project teams that are established, it felt best to do some research in how successful operations are conducted and importantly the 'who' behind these teams.

After extensive research, a development team guide established by [The Mind Studios](#) felt the best resource to measure the particular roles that would be required for the professional development and public release of ShopMate. Additional resources were used to investigate the roles further and from personal experience in real world working environments.

These roles are hypothetically envisaged on an unlimited budget to ensure the ultimate realisation of ShopMate to the intended audience, for the sake of outlining positions necessitated. However for the actual feasibility of this project and within a realistic expectation in terms of budget, some of these roles can be absorbed by others to minimise overheads and constraining financial output without stress and detriment to the products release.

## Project Manager

Floating the product idea requires a position where accountability and responsibility is held, and this is done so by the project manager. Their role is to oversee the beginning and completion of the application within the organisation, essentially as outlined by The Mind Studios; a project manager responsibilities are:

- Determining the purpose of the application
- What the solutions this application will solve
- The validation of the project's aims and goals
- Creating a product roadmap its developmental process
- Working towards a timeline and within an established budget

Project managers are an integral part of any development team, as their success will translate to the success of the project in question. Without a project manager, the role undefined can cause confusion amongst a development team as there may be conflicting ideas how the product can be implemented, supported and ultimately utilised by its target audience. By practicing their responsibilities they're able to validate the idea of the project, ascertain the scope and limits of development cycle, the distribution of work by relevant job postings, managing the time structure from conceptualisation to the release of the product and importantly working within the financial means of capital contributed to the project. Without a project manager, the timeline, budget and employee morale and lack of direction could render a failure and waste of time.

## Product Manager

The role of a product manager would work with the project manager - who would oversee the broad working environment and administrative procedures, they would conduct product research, defining the features and benefits of the product and its marketing mix to its target market and audience.

- Compose market research
- Tracking success metrics
- Communicate vision to stakeholders
- Define the user's needs
- Establish release requirements and subsequent updates

Product managers are well suited for app development, just like any product, measure the solutions and its value proposition amongst the market, undertaking a strength and weakness analysis comparing to competitors. This position would be relatable to marketing, as consumer trends would dictate the driving force to where the product's offering would be best scaled to. If the product had some benefit to consumers but overall features that would be limited use for example, such as the lack of demand for a pantry inventory - but a demand for restaurants to have an automatic replenishment solution, the development would be better geared to match and tailor to a more profitable consumer. Having this position would entail the products success on the open market, as developing an application that would have little benefit to consumers would render the operation pointless.

It would be cost effective however, for potential budget concerns, to expect this role of a product manager to also be performed by the project manager as well, considering they would work with the viability of the product proposition and having the broader spectrum of tasks required by certain members of the team, understanding the timeframe and budget concerns within the products development, requiring expertise in marketing and business management to be optimal.

## User Interface Designer

Creating the visual experience for what the user would see when they use the program in question. They will outline the pages that the user would navigate through, be it on a webpage on their computer or app on their smart device. The visual presentation is consideration of an important role as the application as that is what will motivate the consumer to use the program in the first place.

- Creates the visual appearance of the app
- Creates the graphics
- Builds mockups
- Professional use of colours and typography
- Creates layouts

The User Interface Designer role would be an integral part of this project, as the consumer needs to see what they're navigating and that the visual aesthetic is pleasing to the eye. It can be assumed this role would be combined with a User Experience designer not only if there were budget concerns but for ensuring a seamless process is carried out between designing and testing functionality.

## User Experience Designer

In addition to the User Interface Designer, this role would work in unison to ensure the visual motion makes sense to the user, and that it is an easy to use program and designed to do what the product proposes itself to do.

- Studies and analyses users behaviour
- Outlines wireframes
- Makes prototypes
- Follows human centered design
- Designs the app concept from scratch

The point of having a User Experience designer is that an application that is hard or not clear enough to use, will deter a consumer to use it, regardless how good the presentation and design of the program is. If the User Experience designer can nullify issues that the consumer may come across, those problems can be eliminated or refined to a state where it doesn't negatively impact the product. It can be assumed this role would be combined with a User Interface designer not only if there were budget concerns but for ensuring a seamless process is carried out between designing and testing functionality. Combining these skills would produce a highly efficient and intuitive program.

## iOS & Android Developer

A developer with literacy in Apple or Android environments are crucial in order to have the user interface and experiences successfully navigate on the devices that is intended to be of use for the target audience. Segmented technologies would require the process and procedure of each user interaction to mirror on each application per operating system, such as one feature can't be locked from the other.

- Translating the designs into programmable code
- Debugging
- Staying up to date with technology trends
- Creating a reliable and high-performance code
- If cross-platform development, React Native framework and experience with Xamarin, Flutter or Ionic platforms

Having developers that are familiar with programming environments relevant to Android and Apple ecosystems is crucial, as most smart device users use one or the other, this is the only way the product can be utilised and not having a specialised expert native in Xcode, Kotlin or Javascript syntaxes will restrict the userbase this application is intended to be designed for. It wouldn't be unreasonable to recruit a developer that is capable in doing cross platform development, for efficiency and budget consideration, as the code would only need to be written once but it may result in inefficiencies in translating the user experience as intended by the designer.

## Backend Developer

The role of the backend developer is to ensure the management of the server, the management of cloud data and ensures the effective transmitting of operational logic from the user to the database.

- Working with databases
- Building the operating logic across devices
- Building frameworks and the app architecture
- Managing payment systems
- Using application programming interfaces across devices

The purpose of managing this data is to ensure that the application runs as it is intended, as ShopMate is designed as a tool to aid those that have less than ideal creativity, time and perhaps weekly grocery expenditure. If the data is unable to be retrieved and compiled the application is useless.

## Quality Assurance Engineer

The role would entail the monitor of every stage of development where it comes to the user interface and experience design, and the coding development.

- Perform automated and manual testing
- Identify potential challenges that users may face
- Track bugs through testing
- Record test progress and document test cases
- Outline testing standards to ensure app quality and readiness for release

Having a quality assurance engineer would provide confidence that the development of the project goes according to plan as established by the project manager. It would be expected they would be working closely with all departments as testing ought to be carried out consistently, and not left at the end of the application's development, as there may be issues that transpire and cannot be traced back to a certain period and may end up being more costly.

Having ideal wants and realistic expectations makes all the difference to the financial bottom line. At the end of the day it would be ideal to have independent development teams with more than one employee - and depending on capital it could be achieved. However, with a basis of being realistic, the positions that would be on offer would be a project & product manager, a user experience/user interface designer, a cross-platform & backend developer and a quality assurance engineer. If the scope of the project was limited to a team of under ten people, one individual would be the project & product manager, three people would be in user experience and user interface, three people for cross platform and backend development, one person as the quality assurance engineer and one person for administrative duties and a support staff member to the quality assurance engineer and project & product manager.

# Scope & Limits

As this project is a large undertaking, we will require several phases of our project to ensure the best user experience and to not release clunky incomplete features, as a team we discussed the best approach to this, and we believe that ultimately there are four phases that we would like to launch the product in.

## **Phase 1**

The features we want to make available for this would be an inventory system without the nutritional information or recipes section and the shopping list feature where it would simply function as just a list (without the order function). This would be a similar range to what we would like to present for our assignment.

## **Phase 2**

We will bring the app to be available for download on the app store, the included features will be that of phase 1 with the addition of the what to make section and trending recipes.

## **Phase 3**

Phase 3 of our project we intend to deliver our nutritional information function to the inventory as well as the full functionality of the Shopping list feature; the add to cart from recipes, exporting to Coles and Woolworths as well as the Door Dash function.

## **Phase 4**

This is where we intend to deliver our business+ feature where it will be initially demoed with a few local businesses so we can test its viability and improve on it from there.

# Tools & Technologies

The tools required on this project will be programming preferably a python type program for our databases. Java, HTML and CSS for user interface as well as proficiency in UI and UX design through a program such as Adobe XD.

# Testing

For the testing of our app we would run multiple tests to see if the app is both accomplishing what we want, and providing a good and satisfying experience for our users. In the early stages of our app we would run a usability test which is basically just a test to determine if the app is clean and easy to use for our users. We would initially do this testing within our group and then branch out and offer use of our app at locations that would find this handy such as at local gyms so people can track their diet goals all on our app, we would also offer up testing to freelance testers who know what to look for and how to make sure the app is optimal. We would further test our product with the use of user experience tests, this would help us find out if our app is simple and pleasant to use the whole way through for example adding a certain meal or food to your daily meals, is it easy to do? Is there any improvements that we can make to make it more smooth and simple for our users?

# Timeframe

The following table outlines the work that has gone into developing a mock up utility of ShopMate for weeks 1 to 6, with weeks 7 to 15 hypothetical events.

<b>Week</b>	<b>Task Outlined</b>
Week 1	Visualisation and mockup of the ShopMate application.
Week 2	Research tools and resources that will supplement the development of the mockup program.
Week 3	Encourage the team to familiarise themselves with Adobe Creative Suite, such as Adobe XD, Photoshop and Dreamweaver. Appypie eliminated due to the cost factor.
Week 4	Create application mockup using Adobe XD. Python program put forward for database management.
Week 5	Execution of mockup design, detailed product plan outlined and Python program designing the implementation of proposed information to be inputted.
Week 6	Generated mockup presentation of the application at work. Refine documented proposal on the application's benefit to a consumer in the marketplace, what the features and benefits are to prospective stakeholders.
Week 7	Discovery and recruitment drive. The hiring of a project manager and product manager for the application, user interface, user experience designer, cross-platform and backend developer and quality assurance engineer.
Week 8	The project and product manager validates the aims and goals as per the proposal, establishes timeline and budget with development team and hire any additional resources that may be required if time permits. User interface and user experience designer tailor layouts and create prototypes. Do some market research on user behaviour with the way app interfaces are implemented.
Week 9	Refining the development of the database being able to record input made by the user. Using this week to further refine the design of the app layout and the navigation from page to page.
Week 10	Using the data imported by the user, to have the capacity to send a shopping list to a local shopping partner, such as an IGA grocer or to Coles Online and have the order fulfilled based on automatic replenishment for a consumer. Ensure the testing phase for the UI/UX integration is seamless.
Week 11	Program macronutrients into populated recipes and expand the library of recipes for the app to retrieve. The development timeframe needs to be allowed to push through any lag in delay of app development in the following weeks and thorough testing to ensure the value proposition is accurate to the program's promise.
Week 12	Just like the previous week any outstanding design work, implementations and testing is to be conducted during this week.
Week 13	Project manager to review the timeframe and budget and ensure the development has been successfully on track. Ensure partnerships are finalised with stakeholders and advertising campaign is conducted, with traditional means and digital marketing avenues. A stall could be organised and set up at the local shopping mall to introduce customers at supermarkets of the app's potential to provide benefit to their life under brand and product awareness. Development team to focus on finetuning.
Week 14	Use this week to refine development of the application, with the connectivity to local grocers and delivery partners that service locally and pilot a demonstration to ensure product testing has the approval of the quality assurance engineer and project manager.
Week 15	Pivot a release of the app and submit through to the App Store and Play Store for official launch.

# Risks

The risks that are associated with our app is that none of us have experience in any programming language and it is vital to the success of our project, we don't have experience making databases whatsoever so it's difficult to know which coding language is the most effective at achieving our goal. Another risk is we all are completely new to developing apps and don't know which program is best to help deliver our app. Another risk for us is the cross-platform compatibility so with different operating systems, we are not too sure on the best method for achieving a functioning program on all the different platforms such as iOS and Windows.

# Group processes and communication

Our team is constantly communicating daily through discord, and we are attempting to meet all together on teams around twice a week just so that we can all touch base and know what needs to be done. We are constantly bouncing ideas of each other in separate discord channels organised for each subsection of the assignment pinning the important notes and elaborating on good ideas. Constructive feedback is also important so as a team we have analysed our feedback from our previous assignments in the hopes of turning our weaknesses into strengths for this project.

# Artefacts

## ShopMate Python program prototype

There are two files for this program, frontend.py and backend.py, they must both be downloaded and in the same location. To use the program frontend.py must be run using Python IDE. It has a basic menu and choices are enclosed in these [] brackets.

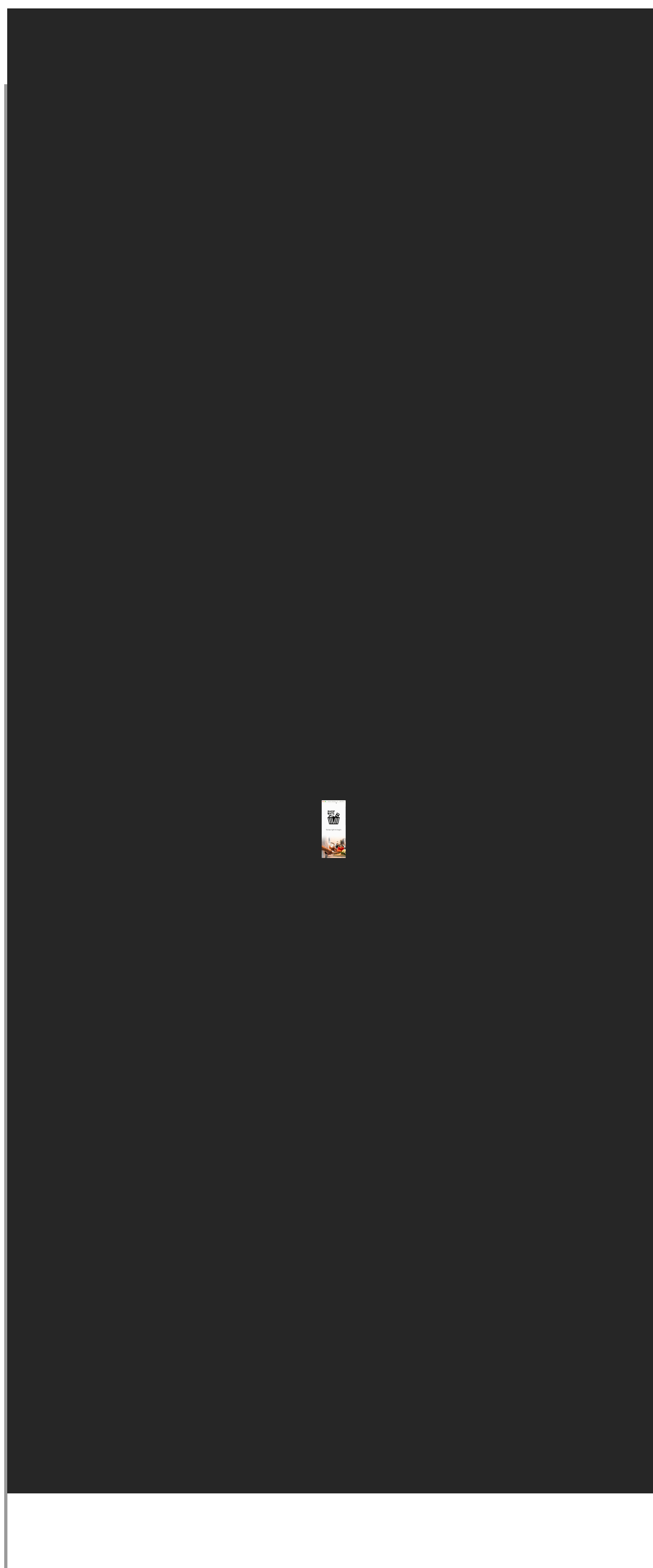
[Download frontend.py](#)

[Download backend.py](#)

## ShopMate Adobe XD App Prototype

The following artefacts were developed to showcase a proof-of-concept for the ShopMate app. Requirements for stipulating real world development has been explained in detail under [Roles](#) and [Timeframe](#) as well portions of the Project Plan.

This artefact is the mockup prototype that was built in Adobe XD, using elements created in Photoshop and using stock images from Getty Images serving as backdrops and stock images of certain meals. The prototype can be experienced here: [ShopMate Consumer Prototype](#)



*If there is difficulty viewing the prototype reel, it can be viewed [here](#).*



# Data Engineer

**Thirty Seven**

**Work from Home**

**Full Time**

The role is for an application that the user puts in items from their pantry into a shopping list and it is exported into a cart for a supermarket or retrieve available recipes based on the meal that they are cooking with the ingredients they have from our recipe database or a recipe that the user adds to the database.

## **Requirements and Skills:**

Advanced analytical and programming skills

Advanced knowledge in SQL, Python or Java

Ability to develop, construct, test and maintain data architecture

Align data access and presentation to meet our projects expectations

Analyse data and prepare reports

Test tools and data analysis techniques for example algorithms and machine learning

The ideal candidate will have minimum 3-4 years of experience in the field and a proven track record when it comes to data analysis. You will also be responsible for the maintenance of our database.

# IT Project Manager

**Thirty Seven**

**Work from Home**

**Full Time**

Thirty Seven are in search of an IT Project Manager that can perform the operative functions of the business, with negotiating with stakeholders and ensuring accountability is retained by the working members of the team. The applicant will be able to transit nationwide being able to meet with team members. The applicant will have the skills attributed to ensure performance is maintained by the positions required to develop the application. Must have had experience in managing a business, creating business opportunities with potential stakeholders and negotiating contracts.

**Requirements and Skills:**

Bachelor of Information Technology or Computer Science  
Project Management Professional certification  
IT Project Management  
Stakeholder Management  
Scrum Methodology  
Microsoft Project  
Vendor Management  
Migrations  
Agile Methodologies  
Software Development Lifecycles  
ITIL Framework

The candidate will have a proven track record in business management, with contracts and development outcomes

Applications nationwide are encouraged.

# Mobile Application Developer

**Thirty Seven**

**Work from Home**

**Full Time**

The Mobile App Developer will work with a team on an application centred around suggesting recipes and creating shopping lists for meals. The app will have a data base of current ingredients the user, recipes, and stock of local supermarkets. The app will base the recipe suggestions and creating shopping lists using the databases of current ingredients the user has as well as preferences.

## **Requirements and Skills:**

Relevant degree e.g., Bachelor of computer science, Bachelor of Software Engineering, Bachelor of Information Technology

Master of Computer Science or Master of Information Technology will strengthen application

Programming skills in JavaScript, Objective C programming, HTML/CSS

Cross platform app development experience

UI/UX Design

Application Security

Database management

Source control management tools e.g., GIT, SVN

The candidate applying for the role must have experience with creating and continued development of a mobile application within a team. They will be required to work closely with our UI/UX designer, and Data Engineer.

Applications nationwide are encouraged.

# User Experience & Interface Designer

**Thirty Seven**

**Work from Home**

**Full Time**

The applicant for the user experience and interface designer will be for an application that is marketed towards a consumer base that is time poor and requires a catalogue of their pantry and kitchen consumables to be stored on their phone, which will present the user a list of recommended meals they can make with the ingredients available, select and shop trending recipes for the day or replenish their kitchen based on previous shops.

## **Requirements and Skills:**

Bachelor of Arts, Bachelor of Design or Bachelor of Science.

UI & UX Design

Designing interface,

Javascript programming

Proficiency in Adobe XD and the Adobe Creative Suite

Design Methodology

User testing

HTML and CSS

UX Research

User Research

Informative Architecture

The candidate applying for the role will have a demonstrated track record in designing and executing a mobile application, working closely with developers and software engineers with databases and backend.

Applications nationwide are encouraged.