Assessment 1 – My Profile by Jarrad Sutherland

**Personal Information**

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I am 32 years old and happily married with 3 children. My wife and I were both born in Australia and the only language spoken at home is English. I graduated Secondary college in 2007 and attended Chisholm TAFE the following year studying games programming, Cert IV. After completing the certificate, I enrolled in the Australian defence force reserves where I learned valuable lifelong lessons around leadership and teamwork. I have been working as a restaurant manager for the last 10 years and have since completed a Diploma of Management (Hospitality).

An interesting fact about myself, is that I have competed in multiple Barista championships over the last few years of my career, with my most recent and best achievement of ranking in the top 10 Baristas in Victoria.

**Interest in IT**

What is your interest in IT?

My interest in IT was mostly fascination of video games when I was young, which turned into an interest in the Internet and the ease of access to information. I still have vivid memories of loading a website on our Pentium one for 10 minutes on a dial-up connection, only for the landline to ring and the internet to drop out.   
Since then, the advancements in IT have grown exponentially and my passion for it has grown alongside it. I’m specifically excited for the future in Virtual Reality and AI as these areas are only just getting started and the next 5 years should be incredible.   
Just recently I purchased myself an Oculus Quest 2 virtual reality headset. I have been blown away at the technology and it is the coolest thing I own; it is incredibly immersive, and I can’t wait to see what is next.

**When did your interest in IT start?**  
I believe it would be from as young as 4 years old, sitting cross-legged on the carpet playing on the NES when I first dabbled in IT. My parents didn’t know then what sort of path those innocent days would lead to and how it would spark this desire in me to want to eventually be a part of making my own game.

Since then, IT seemed to always be a part of my life. I have been the ‘IT guy’ for any computer related issues my family has had, including building PCs for my friends and for myself.

Was there a particular event or person that sparked your interest?   
I can’t outline any one event but more like a series of events that spiralled and coalesced into the gamer and future games programmer I aspire to be. Probably the most memorable of these is Legend of Zelda: Ocarina of Time. This particular game still holds up as one of, if not my all-time favourite game, and I attribute a fair portion of that to nostalgia, but also as recognition to what can be achieved by the gaming world, for the joy and memories it can bring to people from around the world.

**Outline your IT experience (if any).**  
Most of my IT experience has been through self-paced learning using online tutorials or YouTube videos. I studied Information Technology in Secondary College and completed a Cert IV in Games programming. But a lot of the information I learnt at that time is now outdated.

In the last 2 years I have finally decided to improve upon this skillset and have been undertaking online short courses in Cyber security and Networking, although I have not had as much time to put to these as I would have liked.   

**Why did you choose to come to RMIT?**  
I mostly decided on RMIT for 2 reasons, the first of these is that the Bachelor of Information Technology that is on offer here covers a wide range and allows me to explore other avenues of IT, not just limiting myself to solely games programming. The second reason being that I live in Victoria and the Time zones would be convenient.

**What do you expect to learn during your studies?**

I understand that IT is a broad category, so mostly I am hoping to learn the foundations required to get my foot in the door with an IT company and begin my career in the industry I have dreamed of for years. I am hoping that the Bachelor of Information Technology will help give me that foundation.

**Ideal Job**

<https://www.seek.com.au/job/53513674?type=standard#searchRequestToken=4b59c07c-2b5c-4b4b-b5b9-e993af8b4739>

<Insert Career image here>

This position is not the exact job I would be searching for, but the closest I could find in the field. I am looking for a career in games programming with a focus on Mobile app development, as this is an area that interests me and has such a large audience. Video games used to be very polarizing and weren’t originally designed with women or the elderly in mind. Mobile games have subverted that drastically as nearly everyone has a smart phone in their pocket and is more willing to play a game for short bursts. So, I am interested in being a part of that cycle and help develop games in this market.

Most roles in games programming require 2-3 years of experience in a similar position. They also require the applicant to be knowledgeable in a variety of languages including, C++, Python, JavaScript and of course Git. Also important is a requirement to have been involved in making a successful game reach market.

My current skills towards this goal are minimal, as a lot of the self paced learning I have completed thus far has not been targeted specifically at games programming. I have only completed online short courses for basic networking and basic security coding. I have dabbled a little bit in game development software like Unity and have progressed through the tutorials to make mini games. I soon plan to begin production of my own game through Unity as well.

My plan moving forward is to first and foremost complete the Bachelor of IT. Whilst studying I will endeavour to complete online short courses that specifically target C++ and Unity, as well as keep researching new technologies and platforms that become popular to ensure I am keeping on trend.  
After these studies, or perhaps even during the final year/s of study, I will apply for a junior role in games programming in order to obtain vital experience.

**Personal Profile**

<Insert 16personalities test results here>

<Results of Education planner>

<Results of Career Explorer test>

The results of these tests are more accurate than I first thought they would be, I was initially taken aback by the 16personalities results as I didn’t feel it accurately described me. Firstly I believe myself to be more introverted than extroverted and secondly I don’t think I am as judging as the test portrays, but after diving deeper into the meanings I found myself agreeing on nearly every point, so I was pleasantly surprised.

The learning style test again was close to the mark. I personally believe that I am more of a hands-on learner and therefore should fall in the Tactile category higher. But I do often find myself visualizing how a task should be completed and planning this out in my mind for proceeding. I definitely agree on the low score for Auditory as I find my mind wanders if I am not engaged in the audio content.

I feel that these results show that when working in a team that I will be the analytical mind, that I will process the data and attempt to utilize this in a practical way. My team can use this to throw scenarios at me and I can attempt to work through them to find the usefulness or practicality of their solution.

When forming a team, I should use this information to find people who may be more assertive and forward in their approach, this will help balance out the dynamic and not let the team get ground down in research and analysis and start to act.

**Project Idea** – 1000 words

My project focuses on the idea of introducing a new smart device for residential homes in the form of the ‘Smart Washing Line’. This device would detect rainfall and automatically cover your washing with a waterproof blind and when it stops raining, automatically open back up again so your washing can continue to dry. This would be designed as a retrofit product that would be made in multiple sizes and shapes in order to fit a large number of existing clotheslines. The materials used should also be cost effective in order to be available to a wide audience.

The main motivation for this idea came from running to collect the washing off the line when it suddenly starts raining, which tends to happen often. In Melbourne the mean rainfall less than 1mm per year is 100 days (Bureau of Meteorology, 2021). Which means 27% of the year has a chance of rain and therefore a likelihood of households choosing to use a clothes dryer instead of risking there washing getting wet. According to (Australian Bureau of Statistics, 2009) 34% of Victorians use their dryer ‘depending on the weather’, which may turn out to be just a short downfall. With this in mind, it seemed logical to find a solution that would allow the use of a washing line in all weather conditions, whilst remaining outdoors to get the freshest drying experience.

The product would be designed in multiple sizes to suit most commercially available wall mounted clotheslines. Mounted to the top of the clothesline is roller blinds on tracks, that would deploy waterproof coverings over the front and sides of the washing line. The system is run by a rain sensor attached to a raspberry pi board that when detecting the first drops of rain, would send a signal to the motorized blinds and open them, covering the clothes and avoiding unnecessary rain coverage. When the rain sensor dries the signal will stop and the blinds would curl back up, allowing the clothes to continue to dry in the natural elements.   
  
Also attached to the raspberry pi would be a Wi-Fi dual-band adapter to ensure maximum range to the washing line, allowing the device to be controlled by an application on a smart phone. The smart phone app would be designed using Java, giving simple controls and data over the device using a Wi-Fi signal.  
This would allow the user to pre-emptively lower the blinds before the rain hits and raise them again before the sensor has dried.

The raspberry pi and sensors would need to be connected to a battery source which would be stored internally. The battery source would be powered by solar panels, ensuring that the battery won’t need to be replaced regularly.   
Advanced models of this design could include humidity sensors, temperature sensors and a light sensor, to detect the chance of rainfall prior to the rain sensor being activated. This data could be transferred to the smart phone app and present a percentage chance of rainfall and allow the user to decide whether to close the blinds early.

The software required would be written in python, as this is the language used for Raspberry Pi boards. The coding would remain in an ‘off’ state until the rain sensor detects water and will send a signal to the roller blind motors to activate them. At this time it would need a time delay code added to ensure the program does not continue to repeat. It will then monitor the state of the rain sensor, for as long as the sensor is wet, the blinds should remain in the open position. When the sensor has dried the coding will send another signal to activate the roller blind motors and return them to the closed position.

The Hardware required for this project would be:

* A lightweight metal framework to surround the existing washing line.
* Waterproof motorized roller blinds.
* Raspberry Pi board.
* Raspberry Pi ‘HAT’.
* Lithium-ion battery.
* Solar Panels
* Rain sensor.
* Wifi Dual band adaptor.

The hardware for this project is available at affordable costs .

A successful outcome would be a product that is affordable and easy to use that could be installed in residential houses around the world. This would save many people the headache of re-washing clothes after a sudden downpour, not to mention an average drying-machine cycle uses just over 4kWh of energy and produces around 1.8kg CO2. Therefore, using the smart washing line could reduce emissions per household by up to 180Kg of CO2 per year.

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