Assignment 1 Report

**MY PROFILE**

Personal Information

Include your name, student number, student email address, picture, and some basic background information nationality and culture, education to date, languages spoken etc). Include at least one fact about yourself that others may find interesting, such as a hobby, a pet or your favourite sport or other pastime.

**Name:** Rebecca Watson

**Student Number:** s**3903758**

**Student Email Address:** s**3903758**@[student.rmit.edu.au](http://student.rmit.edu.au/)

I am a multicultural Australian and proud member of the Wiradjuri tribe.

I completed Year 12 studies at Moreton Bay College.

I am a passionate and lifelong horse lover and active dressage competitor. I have a small team of horses that I have raised, train and compete with. Twice winner of Queensland State Dressage Champion titles (2011 & 2015) with the goal of more to come.

Interest in IT

You should answer the questions below as best you can. Each answer should be one paragraph in length.

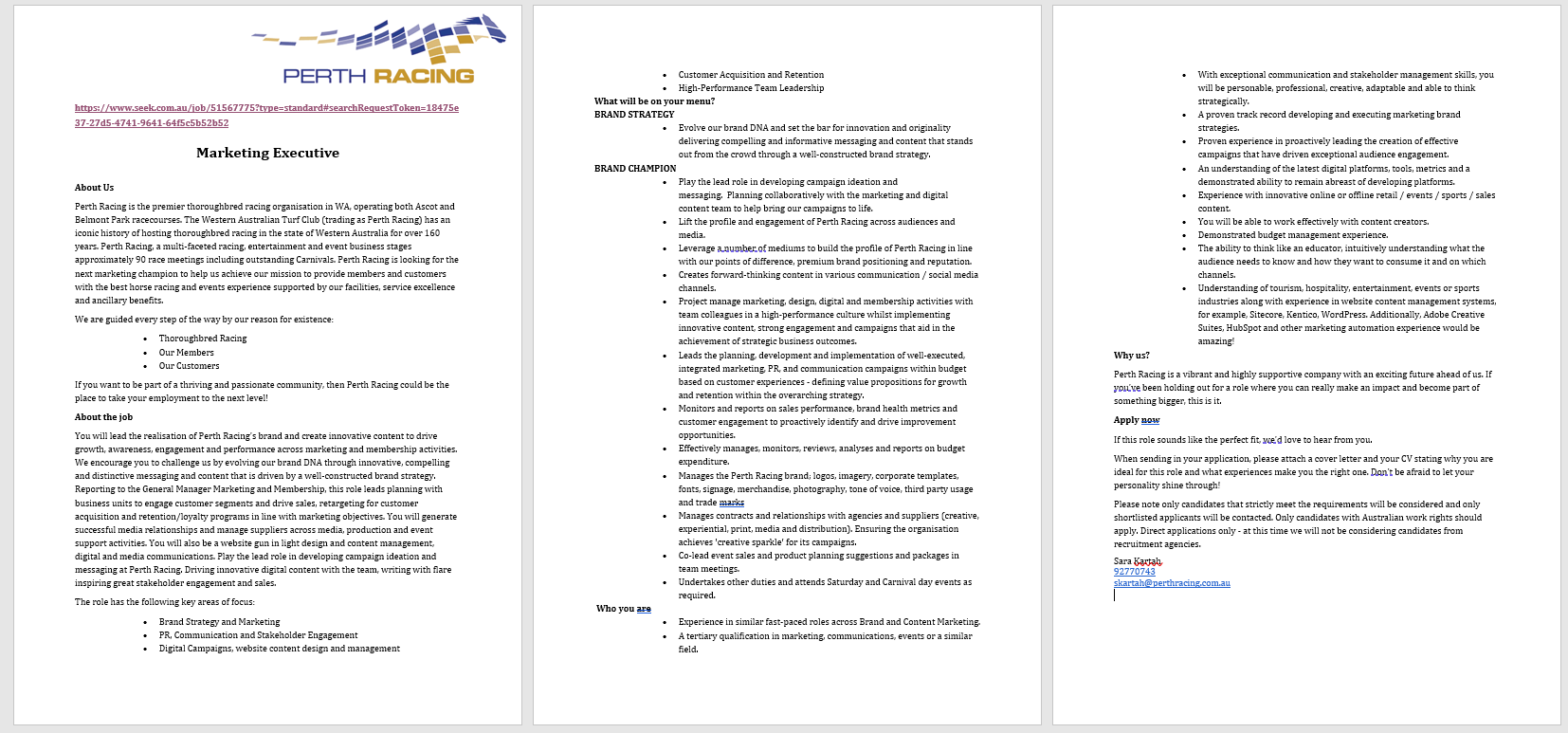
* • What is your interest in IT? When did your interest in IT start? Was there a particular event or person that sparked your interest? Outline your IT experience (if any).
* • Why did you choose to come to RMIT?
* • What do you expect to learn during your studies?

My interest in IT began when I was quite young and started with interactive games for kids on the PC CD-ROM. I also loved to make a newsletter with my friends on Creative Writer for the kids in our street. Later, I was introduced to the internet in early 2000 by a high school friend and the PC game Petz which also had a large and active online community. I spent many hours surfing the web browsing Petz-related websites, visiting forums and downloading all kinds of patches to manipulate the game. It took me deeper into how the game worked ‘behind the scenes’ and I became self-taught on how to understand all the program files that made up the Petz game and even a beginner at hexing my own .petz files.

Aside from the personal Petz origin story, I value the connection locally and globally that the world wide web provides. It is part of my daily life and I use many aspects for it personally and professionally. I am highly interested in the role of websites and social media in promoting and connecting businesses to the public consumer and IT can be used to its maximum effect.

I chose to come to RMIT first of all as I needed the flexibility of the online course option offered through Open University Australia. I read through the subjects offered in the Bachelor of IT course and they all interested me, on my personal journey of wanting to learn more about the IT industry, upskill and understand how things work. My Google research showed RMIT to be a highly regarded technology institute on a world wide stage. The Bachelor of IT offered by RMIT seemed to be the best fit for myself and my aspirations going forward, and this is why I chose to study with RMIT.

My expectations of what I will learn from my studies are broad; I want to become knowledgeable and confident in website design and code, understand the cloud and security, programming and how this all fits together in a professional sense for my future. I also plan to minor in the Marketing and Internet Design subjects offered within the course. I want to be able to offer future employers up to date knowledge and skills with a degree to back it all up and hopefully open up more job opportunities for myself when I complete my studies.

**Ideal Job**

The job advertisement itself. Include a link, and a snapshot of it (in case the link expires before the assignment deadline).

* A description (in your own words) of the position, and particularly what makes this position appealing to you.
* A description (in your own words) of the skills, qualifications and experience required for the position.
* A description (in your own words) of the skills, qualifications and experience you currently have.
* A plan describing how you will obtain the skills, qualifications and experience required for the position, building on those you have now. This need not be greatly detailed, (and will probably change significantly over time anyway), but try to be as specific as you can.

[**https://www.seek.com.au/job/51567775?type=standard#searchRequestToken=18475e37-27d5-4741-9641-64f5c5b52b52**](https://www.seek.com.au/job/51567775?type=standard#searchRequestToken=18475e37-27d5-4741-9641-64f5c5b52b52)

The position is for a Marketing Executive with Perth Racing in Western Australia. It involves many different aspects across website and content design, digital and media communications. The position also requires building relationships with suppliers across media, production and event activities as well as stakeholder engagement.

The position appeals to me as it is multifaceted across many of my interests and requires skills I hope to learn while doing the Bachelor of IT – particularly with my interest in web design and marketing. It is also a position connected to equestrian sport which is another of my passions. I think I would enjoy challenging myself to fulfil the lengthy requirements outlined in this job advertisement, with the highlight on Brand Strategy and innovation to bring campaigns to life.

* A description (in your own words) of the skills, qualifications and experience required for the position.

The skills necessary for this job are as follows:

|  |  |
| --- | --- |
| * Web design | * Content creation |
| * Understanding of brand and content marketing | * Leadership and team player |
| * Time management | * Tertiary qualification in marketing, communications, events or similar |
| * Good communicator | * Stakeholder management |
| * Proven experience | * Personable and able to develop relationships |
| * Up-to-date on the latest digital and developing platforms |  |

The experience that I currently have relates well to the necessary skills of time management, communication, content creation, developing relationships, leadership and being a team player. These are skills that I have developed from a long-time employment position in our own family promotional product company, delivering customer service, stock and budget control. I have also been an executive member of a not-for-profit equestrian organization in the Committee positions of Secretary, Competition Coordinator, Social Media and Sponsorship for the past five years.

I would envisage myself learning by completion of the Bachelor of IT the skills relevant to those listed above that I do not currently have – web design being key, and minoring in the marketing subjects to fill any of the other gaps with an introduction to the concepts at the very least. I would hope that my knowledge obtained of other IT platforms during this course will also enhance my future job prospects in being an all-round IT professional. It might be that I will have to do further tertiary study in the Marketing sector after the completion of my IT degree. A Masters degree might also be a relevant step to take in further tertiary study.

For positions such as this requiring proven experience in the skills/areas outlined, it may be that I will seek out a work experience or placement in a similar role to show my commitment and gain the necessary experience.

**Personal Profile**

Myers-Briggs test – I am an INTJ-T - Turbulent Architect

<https://www.16personalities.com/intj-personality>

I am in INTJ-T <https://www.16personalities.com/articles/assertive-architect-intj-a-vs-turbulent-architect-intj-t>

Learning style test – Visual Learner

<http://www.educationplanner.org/students/self-assessments/learning-styles-quiz.shtml?event=results&A=7&V=12&T=1>

Big Five Personality test –

<https://openpsychometrics.org/tests/IPIP-BFFM/results.php?r=2,2.5,4,4.2,4#_V>

In addition to the results themselves, you should answer each of the questions below with one paragraph.

* • What do the results of these tests mean for you?
* • How do you think these results may influence your behaviour in a team?
* • How should you take this into account when forming a team?

• What do the results of these tests mean for you?

I think the results of the first test (Myers-Briggs) were the most accurate to who I think I am. It was interesting to reflect on what the results described for me as a person. I did not realise an ‘Architect’ was a rarer personality type. It was nice to read that I would be described as a capable person. The test was spot on when it said that I questioned everything. I do think of myself as a sceptic on everything until I try it myself, or see proven results. I definitely value truth above all things. The second Learning Style test was also accurate in that I do learn visually, by reading or writing out what is new knowledge to me. The Big Five personality test seemed a little to abstract for me to really take anything from it.

• How do you think these results may influence your behaviour in a team?

I think that I might find it harder to work in a group, until I get to know the other members in the group better. I am not afraid to disagree with people if I think they are showing bias or I feel that their knowledge is flawed or lacking. However, I have a lot of past experience working in a not-for-profit committee so I have learned that even if I am a more introverted person, I can still assert myself and be open to the ideas of others. I like to learn about other people and their experiences, and I do value others for what they bring to a project or dynamic.

• How should you take this into account when forming a team?

I think having a clear understanding of my own strengths and weaknesses (which are quite clearly outlined in the Myers-Briggs test above) and trying to find others who compliment these is very important. I am more introverted and details orientated, and so looking for other members who might be big ideas people and outgoing might help to balance this out. I would be more inclined to work with people who are open minded like myself and can engage in debates or exchanges which will positively challenge me and the rest of team.

**Project Idea**

**Overview (100 words) -** This should be a summary of what the project will be.

The project will be to craft a pair of equestrian sport spurs that have small touch sensors installed in the tips with the ability to measure pressure and track the usage rate. The sensors will connect to a smart watch or phone and alert the rider during the training session when a level of pressure or the usage rate has been exceeded. It will also keep the history and track the trends of the rider’s use of the spur over time.

**Motivation (100) words) -** This should be a description of why the project will be interesting or useful. This may include statistics or other evidence, such as: "There

service. are 1.5 billion cat owners in Australia, and so there is a huge market for an automated cat feeder. Using Raspberry Pi technology is a cheap and easily assembled solution to this problem."

My main motivation for this project is to enhance the standards of welfare for horses ridden and utilised for horse sports. Spurs can be a helpful tool to give the rider refined aids and subtlety when training in the competition arena, however there can also be serious downsides to incorrect spur use. Excessive and use of spurs can cause physical pain through continues abrasive or ‘jabbing’ action from the rider and break the skin of the horse to the tissues underneath, as well as significantly contributing to mental stress for the horse.

This project idea is primarily geared toward both the pleasure riders and the sport horse industry in Australia, with last years’ EA Annual Reportrecording 46,523 registered competition licenses for horses, and 22,909 members1. This project idea has a long-term global goal.

I want to help assist both casual and serious riders in their training and competition with their horses, when spurs are worn as an artificial aid. The Equestrian Dressage Rules 2021, Section 1.3 - Abuse of the horse (Article 142, FEI General Regulations and EA rules) states that “No person may abuse a horse during an event or at any other time. ‘Abuse’ means an action or omission that causes or is likely to cause pain or unnecessary discomfort to a horse, including without limitation any of the following: (section c) using spurs excessively or persistently”2.

**Description (500 words) -** Detailed description of the features of the product or service

Equestrian riders are already accustomed to wearing certain equipment when training and competing. The fitting of spurs over the riding boots is common and considered normal. The spurs will retain the look of traditional spurs already available for horse sport, with a few differences which I envision will be minor to the overall aesthetic (see picture).

The outer shell of the spur will be constructed of hollow carbon fibre to support any equipment that needs to be fitted inside. The tip of the spur will feature both touch and pressure sensors, to record the number of times the horse is touched by the spur **and** the amount of pressure applied by the rider. The straps will fit and be fixed as per normal with no change.

The hardware will connect via Bluetooth an app downloaded onto the rider’s smart watch or phone to communication information from the spur to the rider.

Riders will put on the spurs, turn them on and open their app to make the connection before mounting the horse for the ride. The rider will need to be carrying the smart device in a pocket or pouch, or wearing the smart watch while they train. This will allow the app to alert the rider with a noise and/or vibrate in real time, on every occasion that a certain pressure threshold is reached, or the amount of times the horse is touched is exceeded in a certain time frame (pre-determined).

When the rider has completed the session, the app will show them a report in graph or pictures to review the data of the spur use during the session. It might also be used in conjunction with an existing app (Equilab or similar) that measures distance, direction and pace of the horse – this would give an accurate overview of *what* the horse and rider were doing when the spurs were being applied.

The app will keep the data of each training session so the rider can track their usage over time, to help them analyse their spur use and implement better technique, with the goal being to achieve few-to-no alerts during training sessions. Coaches may also be able to connect to the rider’s spurs with their own app during a training session, and use this real-time data to correct and help shape the rider to learn better technique.

Spurs would be charged wirelessly or magnetically. Updates would be downloaded for the app depending on user settings and connections.

**Tools and Technologies (100) words) -** Describe the software, hardware and/or other equipment needed. Include any relevant open source tools as appropriate.

With limited knowledge in the field of (specific) hardware, I am thinking a capacitive sensor will have the capability to measure both the force and count the instances when the spur is applied by the rider to the horse’s side. Further development may reveal a need for two separate sensors needing to be positioned side by side (vertically) as pictured (this picture is a spur with rubber tips, but used to give the idea of how two sensors might be positioned.) The tips of the spur may be silicone or carbon fibre with a touch pad on the end. If one sensor could be used to just fit at the tip of the spur, it would be more discreet.

The hardware may require an Arduino type micro-controller kit to be fitted on the hollow inside of the spur to operate the touch sensor pad/s.

The hardware inside the spurs will connect to the smart device via Bluetooth and communicate the data to an app, specifically designed for the product to measure the statistics necessary for feedback to the rider.

A battery will be needed, and a magnetic induction coil might work best to be fitted inside the spur – probably in one of the shafts – to allow for wireless charging.

LED lights on the outside of the spur shaft to indicate charging/charged/on.

**Skills Required (100 words) -** List the skills are required for your project, including software that needs to be written, and special hardware (if any). How feasible will it be to find the skills, software and hardware required?

The skills required for the project will span multiple technology platforms. To take this project idea to the next step, a team may need to be formed with a range of different specialised skills, including -

Knowledge for the correct specifications for the touch sensor pads, how Bluetooth works and coding for the hardware inside the spur (an Arduino microcontroller may be a good option) as well as the development of the app for use by the smart devices. I do not think this project idea will require anything ‘new’ to be thought of as far as hardware goes, just the knowledge of how to code it to work in the desired way – this might require myself to learn, or to source someone with these skills that I do not have.

Development of the software application might be outsourced, or ideally a team member with experience in developing the algorithms needed to create this. Personally, I would also love to learn how building apps is done from the start.

A manufacturer will need to be sourced to collaborate with me on the creation of the physically unique spurs, to develop the size and exact thickness of the outer layer of carbon fibre to fit the hardware inside and make the spurs durable and aesthetically appropriate.

Algorithms for ideal and excessive pressure on the horse’s sides, as well as for frequency of use would have to be tested through research on live participants. This would enable the the developers to follow animal welfare standards. This will allow information on the app to be accurate and truthful, allowing users to understand the information transmitting from the spurs. Andrew Mclean is a world-renowned behavioural animal scientist and I would seek his involvement through my connection to his son, to assist in developing the research to determine the bench marks for ideal and ‘acceptable’ pressures and usage of the spur and what is ‘exceeding these limits’.

**Outcome (100 words) -** If the project is successful, what will be the outcome? How will the original problem be solved? What impact will this development have?

This project idea, using touch sensors to relay information to riders on the smart devices will assist in awareness and education of how riders are using their spurs as training tools. It will highlight whether they need to improve their technique, to care for the mental and physical awareness of their horses. Until the product has been tested and accepted by the governing bodies (Federation Equestrian Internationale, Equestrian Australia), riders will be able to use them privately at home when training alone and with their coach.

I wish to positively impact the wider equestrian community by providing tool that can be used by every rider, whether they engage in the sport for pleasure or competitively, that will assure they are using the equipment correctly and above all with their horse’s welfare always coming first. I know as a dedicated horse competitor and passionate horse owner, that there are many of us in Australia and around the world that would benefit from this training aid to assist us to become better and more conscious horse riders.

**Bibliography**

1Equestrian Australia *Annual Report 2019-2020.* p4 [*https://www.equestrian.org.au/sites/default/files/EA%20Annual%20Report%202019-2020%20FINAL.pdf*](https://www.equestrian.org.au/sites/default/files/EA%20Annual%20Report%202019-2020%20FINAL.pdf)

2Equestrian Australia *National Dressage Rules 2021.* P13

Ideas for technology use in training aids helped by this article and the use of sensors in *reins,* <https://www.bullpen.com.au/the-journey-into-disrupting-equestrian-sports-with-ipos-technology/>