

Introduction to Information Technology

ASSIGNMENT 1

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Repository URL | <https://github.com/patrick-reyes/patrick-reyes.github.io>

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Assignment 1: My Profile

Personal Information



My name is Patrick and I am an Australian-born Filipino raised in Sydney, NSW Australia.

I have a Certificate III in Information Technology (Networking) which I obtained in 2007 and I am currently taking online courses at RMIT with the goal of completing the Bachelor of Information Technology or possibly looking at entry to Bachelor of Software Engineering through transfer after completing first year subjects.

English is my first and only language that I am proficient with. I was not taught Tagalog while I was growing up although I do know a few basic words and phrases.

I enjoy riding motorbikes when it's warm and snowboarding when it's cold.

While I was travelling in Morocco, I hired a Honda XR250 and did a small tour along the west coast and anti-atlas regions using my mobile with offline GPS maps and stopping at whichever town was closest before sunset (mainly for safety while riding unknown roads) to stay the night.

My favorite place that I have been snowboarding is in Japan. The resorts I visited were Furano in Hokkaido and Nozawa Onsen in Honshu. Due to lucky timing with the weather, both resorts had some of the best and freshest powder snow that I have ever had the chance to board on. Coming in a very close second would be Breckenridge Resort in Colorado, USA. Again, I was very lucky with timing because shortly after that trip, COVID-19 had started to become the pandemic that we are all familiar with and lockdowns started.

Lately I've been exploring and learning how to build applications by implementing a range of open-source software. I have learned that there is a lot of moving parts and technologies involved when constructing an application so when the parts eventually start working together it is deeply satisfying.

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Interest in IT

What is your interest in IT?

I am interested in software development and learning how to architect software solutions. I feel like I have patches of basic knowledge in the area which I learned through self-study and work but I want to have a more rounded, current, higher-level understanding of the full process from design, development and deployment (SDLC comes to mind, something we did not really practice at work).

When did your interest start?

My interest in IT has gone through a lot of changes and phases throughout my life. My father graduated with a degree in Civil Engineering in the Philippines but when he migrated to Australia his first job was in the IT field as a programmer. He had a PC at home that ran DOS which he used for study. He also had some games on floppy discs which he taught me how to run and play. This would be how I first learnt how to navigate the filesystem of a computer with the command line and using simple commands like CD to change directory or DIR /P to list a directory with a lot of files and subdirectories and looking for files that ended in .EXE to identify them as the ones I needed to run to start the games/applications. These early experiences with computers are what I attribute to initially forming my interests in technology.

Outline your IT experience (if any).

Since completing my Certificate III in IT Networking I have held a range of roles (on and off over the years) in the IT support field with a Managed Services Provider, Fashion Retail businesses, and most recently a small software integration company. The majority of my experience is with smaller IT systems and I aspire to work towards getting experience with working on larger scale systems, more specifically with cloud solutions.

What makes IT interesting for you?

IT is interesting to me because of the nature in how it is constantly evolving. I am always intrigued by the new innovations and solutions that have been made possible with the use of IT and it always amazes me to think about how things were done before an IT solution has been implemented.

What lead you to study at RMIT?

I chose to study at RMIT because I found that it is possible to complete a Bachelor level education going through Open Universities Australia and studying online. I did not achieve to my fullest potential in high school and studying online through RMIT has given me the opportunity to get a formal education and obtain a degree without previous academic merit normally required for entry at other institutions.

What do you expect to learn during your studies?

While studying at RMIT, I expect to learn the foundations of IT and cover any gaps in knowledge that I may have missed from self-study. I also expect to learn current technologies as well as frameworks that cover aspects of IT (project management, software development life cycle) that I can bring with me to potential future employers when I start looking for a job that is more aligned with my goals and build on the skills I learn.

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What do you hope to do after graduation?

After graduation, I want to apply the skills and knowledge I have learnt to create or contribute to something that has a positive impact on society. I hope to gain employment with a company that utilizes the latest technologies and frameworks to successfully provide services and products at scale.

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Ideal Job

Job advertisement

Servian – Software Engineer

<https://jobs.lever.co/servian/ab32fce6-f10e-461a-9d59-03016e828939>

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servian_

Software Engineer

APPLY FOR THIS JOB

SYDNEY - HEAD OFFICE / CONSULTING - CONSULTING (NSW) /
PERMANENT

About us

Servian, is an award winning, regional and global tech consultancy with a rich heritage in Data, DevOps, Digital app dev, Machine Learning and cloud. We embrace innovation, change, and the positive impact it has for us and our clients. All roles at Servian involve personal and technical development pathways which aim to facilitate your career growth. We aim to build an employee experience where you will grow more with us, not be drowned out by the loudest voice, and hence we strive to set you up for a career which will have a greater impact.

Over the past few years, we have been working on various different projects within the Software and App development space which have strengthened our relationships and positions with existing and long-standing clients. This has opened up the opportunity for us to expand the engineering team.

This is a great opportunity to join a firm that focuses on:

- **Data & Analytics** - BI/DWH, Big Data Analytics, Data Engineering, Data Science and Advanced Analytics
- **Digital** - Full stack Development, UI/UX Design, Mobile Development
- **Cloud & Technology** - Cloud Services (AWS, Azure, Google Cloud Platform), Managed Services
- **Customer Engagement** - Marketing Campaigns, Campaign Analysis, Customer Insights
- **Artificial Intelligence** - Natural Language Processing, Computer Vision, Machine Learning, Deep Learning
- **Cyber Security** - DevSecOps, Penetration Testing, Multi-Cloud Security, Security Posture Analysis

What are we looking for?

- Developed skills with a range of programming languages and libraries (Python, Java, Scala, Golang, .NET Core, NodeJS, etc.)
- Extensive experience working in cloud environments (AWS, Azure, GCP)
- Consultative mindset with strong stakeholder management and communication skills
- Expertise in the design, development and delivery of data or automation solutions
- Experience in CI/CD, TDD and secure coding practices
- Experience integrating web-based applications with backend API services
- Knowledge of common data structures and algorithmic solutions
- Passion for teaching, coaching or mentoring team members
- Love working in an Agile environment

We hire for mindset! If you don't possess all of the above skills we can teach you what's missing. So if this role resonates with you then hit that apply button!

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Who are you?

- **Curious and eager to learn:** you are a curious individual who is eager to develop their skills and progress their career at every opportunity in a consulting environment.
- **Team player:** you thrive as a part of high performing teams and love sharing your knowledge with your peers and clients. We win together.
- **Proactive:** you seize opportunities when you see them. Every day at Servian presents broad opportunities for personal, professional and business growth.
- **Passionate:** you are excited by tech. Our team constantly innovate and implement new technologies and methodologies for themselves, our vendors and our clients.

Why join Servian?

- Work on a wide range of interesting projects, using a variety of **emerging technologies**.
- A chance to work alongside a **collaborative and passionate** like-minded team.
- Consultant-led initiatives to get everyone excited, which include social and tech clubs (gaming, IoT, badminton, wellbeing, VR etc.), gaming events, MeetUps, and Cloud vendor **Hackathons**.
- Proactive **career development** through structured learning and development, multiple avenues for growth and an innovative reward and recognition structure.
- Alongside the above, we also provide employees with **life and salary insurance**, progressive **parental leave policy**, and a sociable workplace that truly values its diversity.

Wellbeing & Benefits:

- We provide employees with Life Insurance, Income Protection Insurance and access to an Employee Assistance Program.
- Generous Parental leave.
- Substantial Referral fee. We value your opinion and want our employees to contribute to the success of Servian!
- Wellbeing and mental health initiatives - Yoga, Meditation, September.
- We are proud to have a sociable workplace that values diversity and celebrates achievements with quarterly company-wide events, social events and more.
- Monthly in-person team lunches/dinners so you can connect with your colleagues outside of work!

What's Next?

If this role sounds of interest, or you would like to hear about other exciting opportunities get in touch with the Servian Talent Acquisition Team.

APPLY FOR THIS JOB

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Description of the position and what makes this position appealing to you

The job advertisement I have selected is for a software engineering role in a technology consulting company. The position appeals to me because of the range of technology the job advertisement claims the firm focuses on: Data & Analytics, Digital, Cloud & Technology, Customer Engagement, Artificial Intelligence and Cyber Security. These areas overlap a lot of my interests in Information Technology and I would like to work towards becoming a software developer with the skills to work in one or more of these areas.

Description of the skills, qualifications and experience required for the position

The position is looking to hire someone with the ability to develop software and apps (primarily data or automation solutions) using a range of programming languages that would be deployed on cloud infrastructure. The software teams follow software development frameworks and methodologies such as (but not limited to) Continuous Integration/Continuous Development, Test Driven Development and secure coding practices so experience working with these frameworks and methodologies would be required.

Strong communication skills to manage stakeholders, share information and processes with team members, and to work in an agile environment is also required.

The job advertisement does not explicitly state required qualifications but I would expect a Bachelor Degree in Software Engineering, Computer Science and certifications in cloud technologies and to be beneficial.

Description of the skills, qualifications and experience you currently have

The Certificate III in Information Technology (Networking) has given me a good foundation on networking principles but I do not believe this is enough for the role and only slightly relevant.

The languages I have used are C# (.NET Framework/Core) and HTML/CSS/JavaScript. The applications were deployed and hosted on Windows servers using Microsoft IIS. These skills were either self-taught or informally through work by performing my own research as required or liaising with colleagues for escalation.

My experience with programming in a few languages to support, maintain, and update desktop and web-based applications would be relevant to the requirement of skills with a range of programming languages although because the apps were hosted on on-premises servers that operated within a private windows-centric infrastructure, I am unable to demonstrate extensive experience with working in cloud environments. I am also not confident in demonstrating knowledge of data structures and algorithmic solutions.

Working with small teams in a range of roles from IT Helpdesk to Application Support required professional communication and time management skills.

Describing how you will obtain the skills, qualifications and experience required for the position, building on those you have now

Completing the Bachelors of IT will get me started with solidifying my foundational knowledge of Information Technology with a potential to transfer to a more suitable degree like Bachelors of Software Engineering or Bachelor of Computer Science which is more aligned with my interests. Furthermore, I will look towards completing certifications in frameworks, methodologies or subject

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matters that are focused on software development in the areas of security, cloud environments and data management.

In the meantime, I will also work towards finding employment with a business that utilizes the technology that I am interested in and has roles available that are suited to my abilities, experience, and qualifications.

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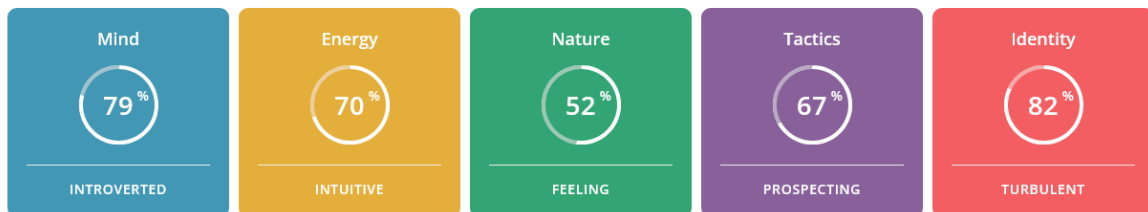
Personal Profile

Personality Test



Your Results

| | | |
|-----------|----------------------|---|
| TYPE: | Turbulent Mediator | ? |
| CODE: | INFP-T | ? |
| ROLE: | Diplomat | ? |
| STRATEGY: | Constant Improvement | ? |



The results from 16personalities.com (Free personality test, type descriptions, relationship and career advice, 2022) tell me that I likely do not have the personality to be a leader but would instead perform better in a support style role. Some of the traits that are explained in this personality test are somewhat applicable to me and upon reflection I can say that I am not pleased with the results and would like to put in some effort to change them.

I think the results have given me ideas on areas I can work towards such as the traits of unrealistic ideas and goal setting, self-isolating, and being self-critical. Working in a team will influence my behavior, especially with regards to these weaknesses which I will need to overcome, to successfully be a contributing team member.

When forming a team, I would consider the strengths that were outlined in my results and look to join a team with members whose traits can be complemented with my strengths.

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Learning Style Test

You are a Visual Learner

If you are a visual learner, you learn by reading or seeing pictures. You understand and remember things by sight. You can picture what you are learning in your head, and you learn best by using methods that are primarily visual. You like to see what you are learning.

As a visual learner, you are usually neat and clean. You often close your eyes to visualize or remember something, and you will find something to watch if you become bored. You may have difficulty with spoken directions and may be easily distracted by sounds. You are attracted to colour and to spoken language (like stories) that are rich in imagery.

Here are some things that visual learners like you can do to learn better:

- Use flashcards to learn new words.
- Try to visualize things that you hear or things that are read to you.
- Write down key words, ideas, or instructions.
- Draw pictures to help explain new concepts and then explain the pictures.
- Colour code things.
- Avoid distractions during study times.

Remember that you need to **see** things, not just hear things, to learn well.



The results from arden.ac.uk (What type of learner are you?, 2022) tell me that I am a Visual Learner and it is more efficient for me to learn by using visuals aides to memorize subject material. I agree with the results in regards to my troubles learning and memorizing material by simply reading so the results seem to be somewhat accurate. Unfortunately a lot of the subject material that I study to achieve my goals (most notably with programming) often has its documentation in text format and lacks visual aides.

These results may influence my behavior in a team by giving me insight to how I could learn effectively and communicating that to team members. It may also strengthen my skills in communicating ideas and the areas that I have a better understanding in a way that is easy for the team to understand and learn.

When forming a team, I would consider looking to join a team with members who also share visual learning traits. The ability to share resource materials that compliment a learning type might be effective and efficient.

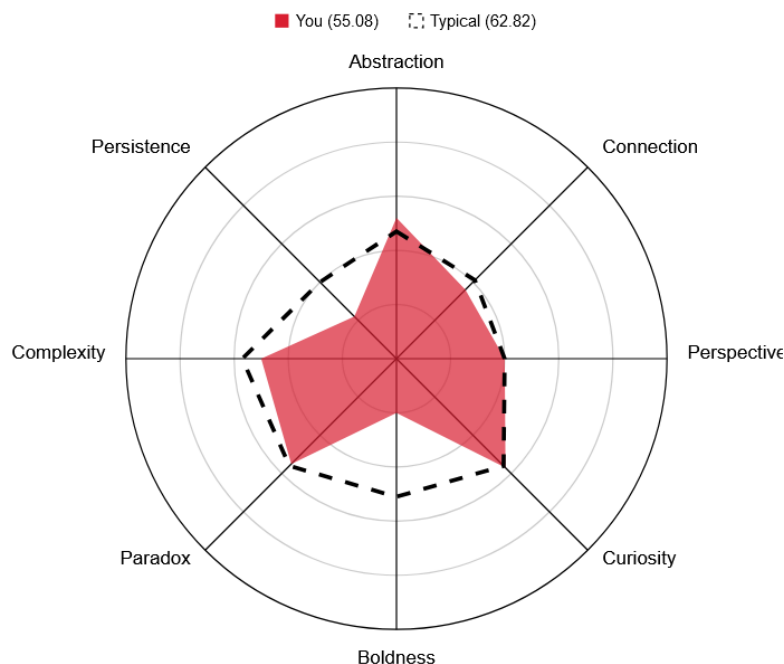
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Creativity Test



Your creativity score is **55.08**



Explanation of different metrics

- Abstraction** The ability to abstract concepts from ideas
- Connection** The ability to make connections between things that don't initially have an apparent connection
- Perspective** The ability to shift ones perspective on a situation - in terms of space and time, and other people
- Curiosity** The desire to change or improve things that everyone else accepts as the norm
- Boldness** The confidence to push boundaries beyond accepted conventions. Also the ability to eliminate fear of what others think of you
- Paradox** The ability to simultaneously accept and work with statements that are contradictory
- Complexity** The ability to carry large quantities of information and be able to manipulate and manage the relationships between such information
- Persistence** The ability to force oneself to keep trying to derive more and stronger solutions even when good ones have already been generated

The results from Test My Creativity (Free online creativity test - TestMyCreativity, 2022) tell me that creativity is not a strong trait of mine although I might have a strong ability to abstract concepts from ideas and a strong desire to change or improve things that everyone else accepts as the norm. The results also indicate a weakness with persistence to try and derive more and stronger solutions even when good ones have already been generated. It also indicates that I do not have the confidence to push boundaries beyond accepted conventions.

The results may influence my behavior in a team by giving me a reference of weak areas I have with creativity such as settling for the status quo. The results also gave me a reminder that I should work towards not fearing what others may think of me which would improve my ability to contribute more to a team.

When forming a team, I would consider looking to join a team with members who may have strong creativity traits and whose weak traits with creativity can be complemented with the strong traits that were evaluated for me indicated in this test.

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Project Idea

Overview

My project will be a website aggregator that will display the schedule, news, and race data related to Formula 1 (F1) in a single webpage with interactive components.

The name of the project that I have chosen is F1Dash. It is a play on the word “dash” which means to be in a hurry (something you want to be as a driver in F1) as well as a shortened version of the word dashboard.

The interactive components will allow a user to customise the data visualizations which can be used for analytics and comparison.

Motivation

Globally, the average audience per Grand Prix in 2021 was 70.3m so there is a large market for an application that aggregates F1 news coupled with an interactive statistics component.

I enjoy following F1 and the goal of this project is to display the latest information in one easily accessible place using open-source UI components and visualization libraries to make the application look modern and easy to use.

This project is interesting to me because it gives me the opportunity to learn the development skills required to design and build an application that is hosted in the cloud from scratch.

Description

Automatically updated – The sources and data that will be displayed on the app needs to be automatically updated to show the latest information. To achieve this, an automated backend service will need to be built that will query online sources for news, videos, schedules, and statistics. Due to the large range of sources available and the time constraint of releasing the application, the project will initially integrate with publicly available APIs to gather data. Web scraping is another option to retrieve data although this option will remain as a potential future addition for the scope of this project.

Always Online – In order to serve the application 24/7, it will be hosted on a server using a cloud services platform (AWS, Microsoft Azure, GCP, Oracle Cloud). Further research will need to be done when selecting which cloud platform due to the current unknown data storage and transfer requirements required for the calculation of costs although the services provided by each of cloud providers are similar enough to be confident that this decision can be made at a later date.

Accessible anywhere – By having the application available online, this allows the opportunity to have it accessible across both desktop and mobile platforms. The application front-end will be designed to be mobile friendly although a native client for mobile will not be developed at this point. If the application concept proves to be successful then a native client can be considered.

Statistics Analysis – Interactive visualisation of F1 statistics is the main feature of this application. It will allow a user to apply filters to display historical and live F1 race timing and telemetry data. This will allow a user to get a better insight into F1 races and be able to use the visualised data to easily form data-backed opinions.

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Tools and Technologies

A cloud platform will be used to create and host a Linux virtual server which will be the host of the web application. There are a range of available Linux distributions that would be applicable but I will most likely use Ubuntu Server because of the available documentation.

A database is required to store the data that is fetched from the public APIs. An initial mock-up of the project will be created with an SQL database like MySQL (MySQL, 2022) or PostgreSQL (PostgreSQL, 2022) and the performance of the database can be evaluated. A NoSQL database can be reviewed if the SQL databases are not performing as expected although this is not expected to be of concern.

Web Server – Apache Tomcat which comes pre-packaged in with Java Spring

Web Application Framework – Java Spring RESTful web service to serve the API for the clients to consume data.

Front-end Framework – HTML, CSS, JavaScript languages to develop using the React front-end framework

Text editor – Visual Studio Code, JetBrains IDEA for coding, debugging, and packaging the applications.

Internet browser – Mozilla Firefox/Google Chrome web browser to test, debug, and run the application.

Skills Required

The skills required will predominantly be software programming based because the architecture of the application will be cloud based and the data is retrieved through online sources. The skills required to complete this project covers the knowledge of full-stack development of an application: from the backend services that gathers data, web services that serve the data, and frontend clients that display the data.

More specifically, knowledge in:

- Cloud virtual server instantiation and administration
- Ubuntu Server systems administration
- Java, SQL, and HTML/CSS/JavaScript programming
- HTTP and RESTful web services

The documentation of open-source software and tools would be the best place to gain the skills required to complete this project. Also, discussions boards like Stack Overflow (Stack Overflow, 2022) or Stack Exchange (Stack Exchange, 2022) can have the answers to common issues or problems that have been experienced by others.

Outcome

If this project were to be successful, it would provide a single accessible dashboard of information, entertainment, and knowledge of F1 news, media, and statistics for a user. It will eliminate having to open multiple websites by providing a single place for F1 news while also providing useful tools to

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analyse F1 data. I don't imagine the impact to be world changing. It will be another source of entertainment that makes life just that little bit easier for anyone who enjoys following F1.

The impact it would have on me personally would be greater. I would have learnt the skills required to successfully design and build an application that can manipulate and display data obtained from multiple online sources.

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