

INTRODUCTION TO IT

MY PROFILE

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ABOUT ME

As you have probably seen by now, my name is Jake. I am 25 years of age and currently live in Toowoomba QLD. To date – I have completed Year 12 and hold a Certificate III in Media.

I currently work full-time at a leading Australian technology retailer as a Sales Manager and have decided to undergo a Bachelor of Information & Technology. I believe that in doing so, I will be able to steer my career path into a direction that better suits my lifestyle and my passion.

I have recently had a newborn daughter who is now 7 months of age. (I say recently, as it feels like she was born yesterday! Time flies!) Between fatherhood, work and university, I am a very busy person! Normally in my downtime, I would like to enjoy kicking back on the couch with the wife and watching TV, playing video games or watching YouTube.



MY PROFILE

INTERESTS IN IT

My interests in IT vary in all corners of the field. Growing up in the early 2000's parallel to the technological boom has just been second nature to me. I have not known anything entirely different and have always kept up to date with the latest trends. In particular, I have always enjoyed pulling electronics apart and challenging myself to put them back together. Doing this from an early age has directed my interests into learning how things work and how they were created. This proceeded into wanting to learn more and more, not just about hardware, but the software and the impact IT has on the world.

I was always the kid that tried to find a way around things to gain access to what I wanted. Whether this being "modding" my consoles to play any game, finding avenues such as proxies to access websites that were blocked in school or the earlier days, simply unplugging the home phone out of the line so I could have uninterrupted access to dial-up internet without my parents knowing!

Most of my IT experience is self-taught – spending hours on end tinkering, watching YouTube, or browsing through forums. My senior years of high school included a 2-year traineeship obtaining a Certificate III in Media. I was very passionate about this for several years and envisioned that this would be what I wanted to do for the rest of my life. This, however, did wear thin and I lost interest.

After getting a taste for money with a job while in high school, I decided to put off university; in doing so, I continued between a few jobs getting higher pay as my resume became longer. I am now at a point in my life where I'm tired of working a job. I want a career.

I chose Open Universities Australia as my study method as the flexibility suits my current lifestyle. I also chose this education provider, as the university of choice for this course was RMIT, who are leaders in this space.

During my studies with RMIT, I expect to gain an understanding across all fields within the world of IT. Upon completion, I hope to have gained a vast array of knowledge and narrow down a particular area that has sparked my interest to further focus on developing a career.

IDEAL JOB

PENETRATION TESTER

My ideal job would be a professional Penetration Tester. This job appeals to me strongly as it requires persistence, problem-solving and is extremely flexible with job opportunities across the globe.

Penetration Tester

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CyberCX is Australia's leading independent cyber security services organisation. To support rapid growth, we are currently hiring experienced penetration testers and security consultants to join our Canberra team.

We are building Australia's greatest security assurance team. As a CyberCX consultant, you'll be delivering world-class penetration testing engagements to empower our clients to operate safely and effectively. We are looking for passionate professionals who have deep technical knowledge and are continuously looking to grow and develop their skills.

We have multiple roles available and are open-minded about location and background (we have offices in most Australian capital cities). If you're a talented, intellectually curious penetration tester looking for your next home, CyberCX may be the place for you.

You'll be responsible for:

- Working with a diverse range of customers to identify and solve security problems, both in person and remotely.
- Delivering a wide range of security assurance services, including but not limited to web application penetration tests, network and infrastructure penetration tests and vulnerability assessments.
- Performing social engineering engagements and physical security assessments and/or undertaking secure code reviews, where appropriate.
- Preparing high quality reports detailing security issues, making recommendations, and identifying solutions.
- Working collaboratively with your team and clients to continuously grow and share knowledge.

About you:

- 2+ years in penetration testing. Ideally with some experience in a consulting environment (note: this level of experience is a guide, not a requirement).
- Passionate about offensive security and security assurance. You must genuinely love your craft and want to excel.
- Able to work collaboratively and independently, depending on project and team requirements.
- Continuously looking to grow and develop your technical and professional skills – a proven track record of self-initiated learning and involvement in the pen testing/hacking community is highly regarded.
- Industry recognised certifications in penetration testing (CREST CCT or CRT, OSCP, SANS, etc) are regarded highly, but not required.
- AGSVA clearance regarded highly, but not required.

Source: <https://www.seek.com.au/job/56265605?type=standard#sol=c96cc10d5ebf8765a7f5c37d0f523c979c1e8dcb>



IDEAL JOB

IDEAL JOB - CONTINUED

The role of a penetration tester consists of taking a proactive and offensive approach to perform attacks into a company's or person's existing digital infrastructure. This consists of using different methods and tools to try and find vulnerabilities that a hacker could exploit and potentially lead to potential data breaches or loss of revenue (whether that be intellectual property, stored financial data, or just simple downtime due to a malicious hack). Although there is generally no official needed qualifications to become a penetration tester – there are undoubtedly advantageous industry certifications to hold, such as:

- CISA Certification - Cybersecurity and Infrastructure Security Agency
- CEH - Certified Ethical Hacker
- CREST Certification
- CISM - Certified Information Security Manager
- OSCP – Offensive Security Certified Professional

These certifications can generally be obtained by sitting a test with the relevant agency.

As for the skills required for this job, there are many required. A successful penetration tester should have a vast knowledge of scripting and coding, exploits and vulnerabilities, networks and infrastructure, web applications, operating systems, and firewalls. A successful penetration tester should also demonstrate critical thinking and outside-of-the-box problem-solving skills.

In order to gain these skills and qualifications, I first plan on completing my Bachelor of Information & Technology to better understand the whole field of IT before delving deeper into the world of cybersecurity. I currently also spend my free time learning more about penetration testing and hacking methods by watching YouTube videos, participating in forums, and listening to podcasts.

PERSONAL PROFILE

MYERS BRIGGS

"The purpose of the Myers-Briggs Type Indicator® (MBTI®) personality inventory is to make the theory of psychological types described by C. G. Jung understandable and useful in people's lives. The essence of the theory is that much seemingly random variation in the behavior is actually quite orderly and consistent, being due to basic differences in the ways individuals prefer to use their perception and judgment.

"Perception involves all the ways of becoming aware of things, people, happenings, or ideas. Judgment involves all the ways of coming to conclusions about what has been perceived. If people differ systematically in what they perceive and in how they reach conclusions, then it is only reasonable for them to differ correspondingly in their interests, reactions, values, motivations, and skills."

In developing the Myers-Briggs Type Indicator [instrument], the aim of Isabel Briggs Myers, and her mother, Katharine Briggs, was to make the insights of type theory accessible to individuals and groups. They addressed the two related goals in the developments and application of the MBTI instrument:

The identification of basic preferences of each of the four dichotomies specified or implicit in Jung's theory.

The identification and description of the 16 distinctive personality types that result from the interactions among the preferences." (The Myers & Briggs Foundation - MBTI® Basics, 2022)



TYPE:	Assertive Adventurer	?
CODE:	ISFP-A	?
ROLE:	Explorer	?
STRATEGY:	Confident Individualism	?

Personality Traits



Source: <https://www.16personalities.com/profiles/10613da07624b>

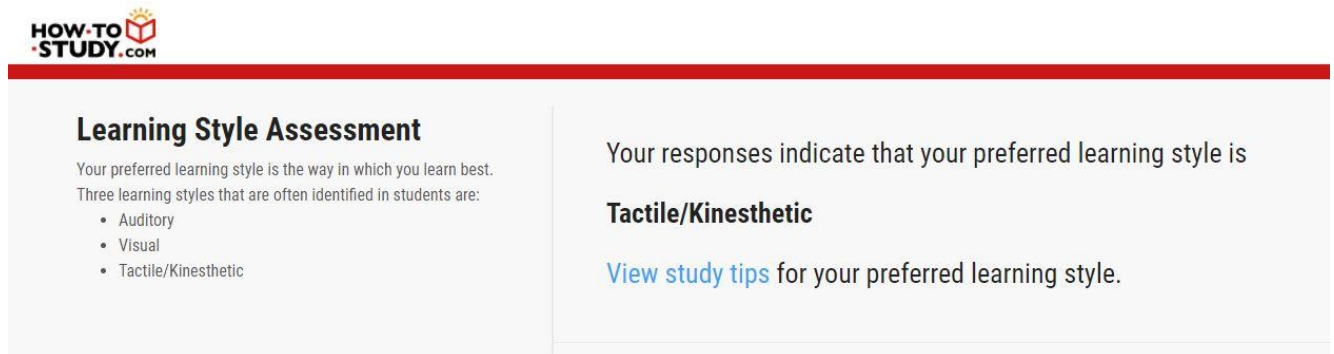


PERSONAL PROFILE

LEARNING STYLE ASSESSMENT

“A learning style is the way that different students learn. A style of learning refers to an individual’s preferred way to absorb, process, comprehend and retain information. The four key learning styles are: visual, auditory, tactile, and kinesthetic. Visual learners prefer to use pictures, graphs, and images to organize and communicate their thoughts and learn best from using flash-cards. Auditory learners prefer to listen, discuss, memorize and debate in class. They learn best from audiobooks rather than print ones. Tactile learners learn best by touch and movement—they find opportunities to take part in demonstrations, writing, or building models. Kinesthetic learners prefer to use their whole body in the learning process—they use gestures to communicate ideas and learn best in a hands-on environment.

A learning style refers to an individual’s method of making sense of new material, commonly done through sight, touch, and sound. Taste and smell, although not as frequently used as the last three, can still be effective when aiming to solidify ideas in our brain.” (Learning Style Definition and Meaning – Top Hat, 2022)



The screenshot shows a webpage titled "Learning Style Assessment" from How-to-Study.com. It includes an introduction to learning styles, a list of three common styles (Auditory, Visual, Tactile/Kinesthetic), and a result indicating a preference for Tactile/Kinesthetic learning, with a link to view study tips.

HOW-TO-STUDY.COM

Learning Style Assessment

Your preferred learning style is the way in which you learn best.
Three learning styles that are often identified in students are:

- Auditory
- Visual
- Tactile/Kinesthetic

Your responses indicate that your preferred learning style is

Tactile/Kinesthetic

[View study tips](#) for your preferred learning style.

Source: <https://www.how-to-study.com/learning-style-assessment/>

PERSONAL PROFILE

ABSTRACT REASONING TEST

“An abstract reasoning test is an assessment that uses shapes and patterns to assess your problem-solving skills and ability to spot logical series. For example, you might need to select which image completes a sequence, is missing from the overall picture or doesn’t correlate to the other images shown.” (Abstract Reasoning Test: Free Practice Tests & Tips, 2022)



Source: <https://www.psychometricinstitute.com.au/report-free.asp?ctid=10808222>

WHAT DO THESE RESULTS MEAN TO ME?

The results combined with the three of these tests do not come as a surprise to me. I can be an introverted person most of the time; however, I am comfortable coming out of my shell when needed. Being recognised as having an observant mental energy trait is quite fitting as I do like to better understand what is in front of me before committing my intuitiveness. I am a tactile/kinaesthetic learner which means to me that I am hands-on. I like to feel and do opposed to hearing and reading. I have a 'higher than average lateral thinking ability, which determines my ability to quickly learn new information and apply is when solving work-related problems.' (Psychometric Institute 2022)

My results of these tests show strong individual mannerisms which in my opinion is something that a team member must have. My behaviours would be a positive aspect to a team as being able to work autonomously is needed as much as being able to work collaboratively.

Taking these results into account when forming a team, I believe that these traits would match best with people that have similar results and like-mindedness. I would also certainly like to find someone that is more extraverted to be a part of my time, as they may be times where that voice may be needed.

PROJECT IDEA

OVERVIEW

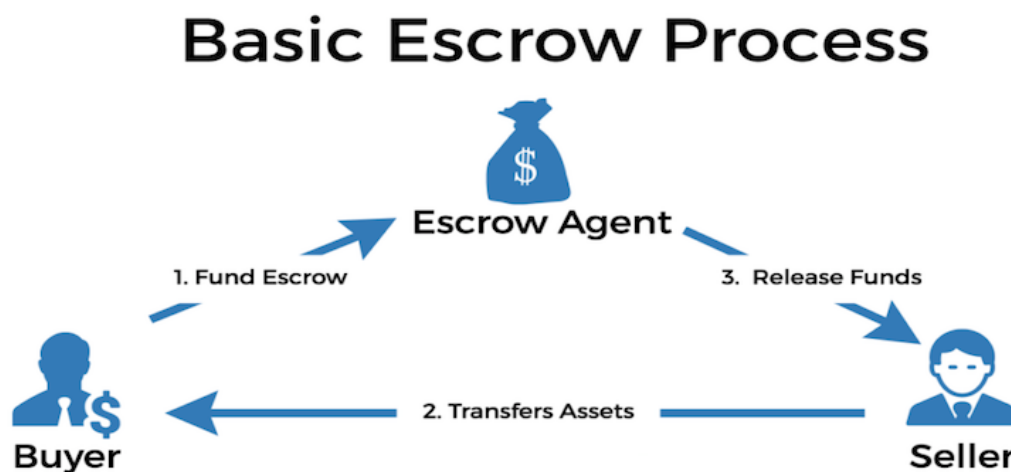
My project idea is a decentralised, trust-less, peer-to-peer escrow service. This will be a website where people can go and trade blockchain assets with one another by using a simple UI and built-in Smart Contracts without having to rely on a human for these transactions.

The smart contracts involved will be able to recognise cross-chain assets and allow each party to verify what is being traded before the final exchange of assets take place. To summarise in simple terms, both parties will go to this platform, make their offering to one another before being able to each being able to “sign” and agree to the transaction.

MOTIVATION

In the Crypto space, people are scammed out of their hard-earned money and profits by heartless and conniving bad actors. The world of Decentralized Finance has exponentially grown from around \$440 million TVL (Total Volume Locked) in 'March to over \$100 billion TVL at its peak in December 2021.' (DeFi Pulse 2022) Along with this influx of money, has come an influx of scammers.

Millions of investors and traders engage in buying and selling cryptocurrencies & NFTs in a somewhat anonymous fashion. In order for an exchange of goods or services to be successful, one must deliver, and one must pay. For this to be guaranteed, an escrow service can be used.



Source: <https://www.bindcapital.com/img/basic-escrow-process.png>



PROJECT IDEA

MOTIVATION CONTINUED

Currently, there are existing escrow services, whether that be an exchange, NFT marketplace, or a P2P trading platform. There are also companies that exist to assist hedge funds, companies, or large investors to purchase cryptocurrency assets using fiat without the need of going through an exchange. This is also commonly referred to as an over-the-counter or “OTC” deal. These platforms still rely on a level of trust between parties.

In summary, the motivation for this product comes from being in positions of hesitation to complete a trade due to having to “trust” a stranger on the internet and also being in positions where money has been lost to a bad actor.

DESCRIPTION

The vision for this platform will consist of an easy-to-use user interface where users can go to peer-to-peer trade any cryptocurrency asset for another. This may be, for example, swapping a person 100 BNB for 25 NFTs without having the need to individually list them on a marketplace that may only allow transactions in Ethereum (This could also be expensive with fees occurring for each transaction). Another example could be that a project may want to do an OTC deal with a large investor to help protect the protocol from a huge dump of tokens, potentially causing mass panic and selloff damaging a project.

The service will be built on a series of smart contracts that the funds or assets are sent to and held in until each party agrees on the trade. Users will connect to their Web3 provider (such as [Metamask](#) or [TrustWallet](#)) in order to transfer these assets. Initially, this platform will only provide services for ERC-20 and ERC-721 tokens as they are ‘the most significant and considered the technical standard’ (Reiff 2017). Most blockchains have been built off Ethereum and are called “EVM’s” or Ethereum Virtual Machines (Ethereum.org n.d.)

Later, the project will be further developed to support other blockchains to be able to create demand for a larger user base.

The project will additionally consist of developing a DEX Aggregator which is a “unified explorer for prices and liquidity offered by decentralised exchanges” (CoinMarketCap 2021) and also a cross-chain bridge. Having a DEX aggregator will alleviate having to build a DEX and gain adoption for other projects to move their liquidity from the current market leaders. Having a cross-chain bridge will allow users to swap their tokens between chains.

Alongside the escrow service, cross-chain bridge and the DEX aggregator, the website will furthermore host its own NFT marketplace where users can list their assets for sale and advertise what trades they are potentially seeking (think Gumtree or Facebook Marketplace but for crypto).

These extra pieces are not to be considered innovative or to “re-invent the wheel” but will be available to stay relevant in the space and provide additional services in order to expand the userbase and create higher demand for the protocol.

In terms of generating revenue, the protocol will either take a fee from each transaction (whether that be a set percentage or flat fee) or potentially house a paid subscription model to use the platform. Depending on feasibility, laws, and licensing requirements, this project also has further potential to accept Fiat currency for trades and even expand to offering services for payments in crypto.



PROJECT IDEA

TOOLS AND TECHNOLOGIES

The tools and technologies needed for this project are no more than any other blockchain project. For the contracts, these will be needed to be developed in Solidity (programming language) using open source software such as [Remix](#) or using the official [Solidity Compiler](#). They will then have to be deployed onto the blockchain.

The project will need a front-end user interface to make things simple for the everyday user, which will be in the form of a website that connects the required actions to the blockchain. There are several ways a website could be developed, whether that is creating it from scratch, or using templates & builders widely available online.

SKILLS REQUIRED

The skills required to build a project like this solely would require the skillsets of a Full Stack Developer. In particular, knowledge of:

- Solidity
- HTML/CSS
- JavaScript
- Git and Github
- Web architecture
- HTTP and REST
- Database storage
- Basic design skills
- NPM

There are also other soft skills required such as good time management skills, curiosity for learning, attention to detail, a creative vision, and patience (Vats 2021).

Currently studying a Bachelor of Information & Technology will help to go a long way into developing these skills, and being able to learn solidity will hopefully come as second nature after completing courses in other programming languages.

However, a project like this will more than likely require a team to help build as there is truly a lot of elements that will have to be combined to create a fully operational protocol.

OUTCOME

If this project is built up-to-scratch, it could be very successful as it fills a large gap in the current market. This will be a one-stop-shop for users across the globe wanting to transact safely, quickly, and securely.

This project will help circumvent bad actors and scammers throughout the crypto space and provide users a place of comfort and trust.



PROJECT IDEA

MOTIVATION CONTINUED

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