**Ideal Jobs**

Compare and contrast the ideal jobs for each person in the group. This may have changed due to feedback from Assignment 1. What common elements are there, if any? What differentiates each position from the others, if anything? How similar or different are your career plans across the group? It can be tackled numerous ways in writing and in visual elements. A concise coverage/analysis/conclusion covering all would be good. Strongly recommend a table presentation of comparison data. As it is very easy to highlight a lot of information, simple for others to read and interpret too.

Of the 6 members in the team, 3 members have suggested becoming a software engineer as their ideal job. In the software engineer roles, the main tasks that appeared across the 3 roles involved designing and developing (highlighted in blue) which is also present in the Infrastructure Architect role. All jobs require the ability to work in teams (highlighted in orange) or collaboratively except for the role as an Infrastructure Architect, which was not specified. However, this role is required to participate in design and execution of innovation projects that will require the ability to work collaboratively in teams. Skills of strong communication (highlighted in green), verbal, and written were consistent between all ideal jobs. Analytical skills (highlighted in yellow) were also consistent across majority of the ideal jobs including software engineers and business analyst whilst front end software engineers mostly required experience and infrastructure architects mostly required understanding in certain technologies.

The business analyst role mostly requires identifying business issues and data gaps to provide insights whilst the software engineering roles mostly requires developing and designing software. This is also the only role that designs analytic solutions rather than systems and software.

Timeline, calendar

Description automatically generated

**IT Technologies**

**Blockchain and crypto**

**What does it do? (600 words) What is the state of the art of this new technology?**Blockchain is a database used by cryptocurrency to decentralise access to data stored on the database. Decentralisation allows the information to be stored on various nodes (computers) instead of one corporation or company such as a bank and transactions are made public. The benefit of a decentralised database is transparency. Once information has been recorded on a blockchain, and a transaction has been created, it cannot be reversed, adjusted, altered, or owned by any one node. The more users that adopt blockchain, the higher the security of the technology increases as more transactions are being created, the less likely it is able to be hacked or altered.

**What can be done now?**Due to the nature of blockchain, governments are exploring the possibility of using the technology to incorporate into society for reasons such as voting in elections. Secure technology such as blockchain can reduce fraudulent voting, tampering with ballots and eliminate the need for human vote counting REF-1 (Conway, 2021). IBM has adopted blockchain technology to create a collaborative supply chain network to improve “visibility and accountability” REF-2 (IBM, 2021) of their procurement processes. This technology could eliminate contaminated produce caused by disease outbreaks and hazardous materials. Blockchain technology improves traceability to easily identify these issues and control the risks REF-1 (Conway, 2021). Banks can also use this technology to continuously process transactions 24 hours, 7 days a week as opposed to the traditional brick and mortar times of 9-5pm. Smart contracts is a blockchain as-a-service model and can also be integrated into blockchains to “facilitate, verify, or negotiate contract agreement” REF - 1(Conway, 2021). This code is a “business automation application” REF-4(Mearian, 2019) improves communication REF-4(Sahu, 2020) and is used as an intermediary for secure transactions whether it is for shipment handovers or house leases. Blockchain as-a-service has been used to substitute the need for infrastructure and human skills. The implementation of blockchain as-a-service allows organisations to speed up the pace of transactions where certain resources are not available.

**What is likely to be able to do be done soon (say in the next 3 years)? What technological or other developments make this possible?**

IBM’s “blockchain-based solution” REF-3(Marr, 2021) has been used to track critical pharmaceutical goods to ensure safe and efficient transportation from its source to the end user. Currently, trials are conducted to track and monitor vaccines to ensure a specific temperature is maintained during its transportation phase that the efficacy is not compromised REF-3(Marr, 2021). NFTs is another blockchain technology that has recently been more widely adopted to certify and authenticate ownership of tangible and non-tangible goods. Technology innovations, a larger adoption from users and large corporation backings can make the development of blockchain technology possible (Technologies, 2021).

**What is the likely impact? (300 words) What is the potential impact of this development? What is likely to change? Which people will be most affected and how? Will this create, replace or make redundant any current jobs or technologies?**

This technology could improve efficiencies in supply chains, how contracts are managed, and the security of financial transactions. An understanding of this technology would encourage the society’s adoption to increase the security of the technology and decentralise ownership of data.

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**Industry Data**

**Industry Data**

* **What are the Job Titles for your group's ideal jobs? How do each of these rank in terms of demand from employers?**

Software engineers were recommended as the ideal job for 3 out of 6 members. This is also the #11 ranking occupation according to Burning Glass. Whilst, the remaining ideal jobs of production engineer, business analyst, and infrastructure were not part of the top occupations.

* **How do the IT-specific skills in your required skill set rank in terms of demand from employers?**

Knowledge of SQL was the most highly required from 4/6 ideal jobs and is ranked #1 in demand from employers. Javascript, SAP, business analysis, graphic designing and software engineering were also various IT skills required across the 6 ideal jobs.

* **How do the general skills in your required skill set rank in terms of demand from employers?**

One skill required from all ideal jobs was teamwork and collaboration which ranked top #5 in demand from employers. The next most common skill required from 4/6 members ideal job was communication which was ranked #1 in demand

* **What are the three highest ranked IT-specific skills which are not in your required skill set?**

The 3 highest ranking IT-specific skills  that were not required in amongst the ideal jobs were JAVA, Microsoft Windows and Project Management

* **What are the three highest ranked general skills which are not in your required skill set?**

The 3 highest ranking general skills that were not required amongst the ideal jobs were organisational, troubleshooting, and planning skills.