<u>Assignment 2</u>

Reflection: why digital identity on blockchain?

In today world, managing your online identity is messy and unsafe. We use many different usernames and passwords, all controlled by big companies. We give them our personal information just to use their services. This system is broken. It leads to data leaks, loss of privacy, and is very inefficient. Using blockchain for digital identity is a huge change. It moves us from identities controlled by companies to identities controlled by you.

The first big reason is better security and less fraud. Right now, when you prove who you are online, you give copies of your data to companies. They store this data in big digital filing cabinets, which are prime targets for hackers. A single hack can steal millions of people's information. Blockchain changes this. Instead of sharing a copy of your data, it lets you prove a fact about yourself without showing the actual document. Your sensitive information stays safely with you. The blockchain record is unchangeable, making fake IDs or tampered documents almost impossible.

The second reason is you get back control and privacy. Today, the companies we use for logins often sell or use our personal data. We have become the product. Blockchain identity flips this. You become the true owner of your identity. You get fine-grained control, meaning you can share only the specific information needed. For a simple age check, you can prove you are over 18 without revealing your birthdate, name, or address.

Imagine a student graduates from the Institute of Technology of Cambodia (ITC). Instead of just a paper diploma that could be forged, the university issues a verifiable digital credential on a blockchain. Now, when that graduate applies for a job at a company like Cellcard or ABA Bank, they don't need to submit a photocopy for the HR manager to manually check. Instead, the job applicant simply shares a secure QR code from their phone. The company scans it and instantly gets a confirmation: "Yes, this diploma was officially issued by ITC and belongs to this person."

This is similar to the current Certificate of Baccalaureate for Grade 12 students, which also has a QR code. A blockchain system would make this even more powerful and secure. It allows students to keep and control their own information, while also effectively avoiding fake certificates. Before, all your information was kept only by the Ministry of Education. Now, with blockchain, you can hold a secure version of your credentials yourself. This system proves your information is authentic without being vulnerable to loss or tampering, making it much safer than before.

In conclusion, digital identity on blockchain is a transformative tool that finally returns control of personal information to the individual. By providing a system that is more secure, private, and efficient. It empowers you to be the true owner of your identity, ensuring your data remains safe and under your control.