**Name: Sak Borin**

**Class: Blockchain, Year 2, Digital Economy, Morning**

**How immutability protects Digital Identity**

In our everyday digital world, all of our information like names, addresses or online platform accounts are stored and shared everywhere. All of this information is known as digital identity and is all needed to be protected safely, especially from hackers or any misuse. There is one solution that we can rely on and it is immutability.

Immutability means that once that data is saved or recorded, you cannot make any changes or even delete it. It works the same as writing a permanent non erasable marker, once you write it, you can change or even erase it. That means that, once the information is there, it cannot be erased or interfered with. In our digital world, this technology does exist and it is commonly use inside Blockchain technology. Blockchain is a type of database that keep all the information in one small piece or block that is also known as blocks. Each block is linked with each other, from one to another one, forming a chain. Once the block is added inside the Blockchain, nobody can ever change it. If anybody tries to do something to it, the system will be alert, making Blockchain and immutability very safe and reliable. That is why Blockchain and immutability are often used for protecting digital identities or information, transactions and important records.

Immutability can protects our digital information in a variety of ways. One of them is preventing tampering. When the data cannot be changed like this, obviously nobody can change or edit your personal information wi

without your permission. For instance, if your National ID, health information or any other important information are all store inside the immutable system, even a professional hacker cannot even do anything about it. This helps make sure all of your information stay safe no matter who is trying to hack and steal. They just can’t he

Immutability also help increase your transparency. Every time there are changes with information inside your block, you can now know who did it and when they do it because immutability records all of the action you have ever done like transferring money. This make it easier to find information or someone if something goes wrong.

Another benefit of immutability is accountability. As mentioned immutability cannot be changed or erased, so by doing this people, companies and organisations become more cautious with what they are doing, more careful when handling the data. They know that mistakes cannot be made here since you will not get a second chance, once the data is put into it. Doing this will help push and encourage honesty and responsibility in how every personal information is managed.

There are already plenty of examples out there in our digital world, of how immutability is used to protect digital identity. Some countries are using this on digital ID cards, where they store all of the ID information inside the blockchain. Once the ID information is enter, it of course can not be change even by the government officer who is responsible for entering the data. This helps prevent corruption and data stealing from happening. For the education section, some universities out there are using blockchain to deal and store the digital diplomas. Therefore, in the future when a student is applying for a job, companies can easily check whether their certificate is legit or if it is a fake certificate. This will help prevent someone from changing or even prevent them from using a fake certificate because with a university implementing this inside the blockchain nothing can be changed and also can easily be checked to confirm as well. In health sector, hospital can use the system to store patient health records. Each visit and treatment is recorded permanently, so doctor always have an accurate information to work with, knowing the real problem of the patient condition, making curing disease less risky and as well as help preventing some hospital to take advantage of the patient disease, by telling lie to make the patient stay longer at the hospital, therefore they will get to earn more from patient staying.

Immutability also plays a major role in online payment and transaction. When buying product online, immutability help record and confirm that the payment is working and went through. Nobody can change or delete that record making both the buyer and the seller confidence that there payment and receiving the payment are real and protected.

In conclusion, immutability is one of the best answers when it comes to protecting digital identity. It keep our personal information safe by making our information unchangeable. It also building trust between people and people, increasing transparency, less corruption and encouraging more people and companies to be more responsible in handling data. As technology continue to grow, more and more system will start using immutability as the protector or their personal information. By using this, we can create a safe, fast and reliable digital environment where every personal and sensitive information stay safe and protected.