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CC0007 Science and Technology for Humanity

# Trustless Trust

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# Overview

## Blockchain beyond Bitcoin

- Blast from the past: Distributed ledgers

## Trust

- Definitions
- Key elements
- Cost of trust
- Trustless trust

## Applications: Metaverse

- What is it?
- What has blockchain to do with it?
- Value creation on digital assets: NFT
- What next?



# What is a Blockchain?

- “Distributed ledger with confirmed blocks organized in an append-only sequential chain using cryptographic links” (ISO, 2020)
- A record shared by many people so that the record becomes very difficult to tamper





# Irony of a Secret

- Minimal number of people who know the secret (i.e., records)
- A movie where an undercover cop cannot go back to the police
- What about your bank account?
- What if multiple people keep the record of your bank information?



# Potential of Blockchain Technology

- Solve the issue of trust though computationally impractical to reverse (Lemieux, 2022)
- So what?
- It all begins with trust...

Lemieux, V. L. (2022). *Searching for trust: Blockchain technology in an age of disinformation*. Cambridge University Press.



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