

The University of Hong Kong

### Project Title

Implementation of decentralized social media using Clojure

### Duration

Approximately 6 weeks starting from 23 Dec 2021

### Introduction

A decentralized social media refers to a social media platform that is implemented using a decentralized network. One main advantage provided by using a decentralized network is that no single entity has complete control over the network. As such, the content posted on the media is secure and censorship resistant.

A way to implement such network is to use the blockchain technology. Blockchain works by having information stored in blocks that are linked together. Each block has its own hash value as well as the hash of the previous block. If a piece of information inside a block was tampered with, then its hash value would change, causing the chain to break. As such, blockchains are nearly immutable.

Another feature of blockchain is that it stores information in a decentralized manner. A copy of the blockchain is distributed to all (full) nodes in a network. Hence even if someone were to successfully change all hashes in one copy of the blockchain, it would still be casted away as it would not align with other copies in the network.

A major concern with modern social medias is data privacy. In a decentralized network, every user is given a public and private key that has no relevance to their real-world identity. This technology may be a solution to such problem.

### Method

This research aims to build an Instagram, Twitter-like social media using a decentralized network. The project will be implemented using Clojure, a functional programming language.