

Informatics Institute of Technology, Sri Lanka

In Collaboration with

University of Westminster, UK

## Establishing End Users' Trust in Custodial Wallets Through Liquidity Assurance

A dissertation by

Kavindu de Alwis - w1761090/2019341

Supervised by

Mr. Sriyan Fernando

Submitted in partial fulfilment of the requirements for the BSc (Hons)

Computer Science degree at the University of Westminster.

July 2023

## ABSTRACT

One of the main implementations of blockchain technology is cryptocurrencies. It has been reshaping the existing finance and economics trends for several years now. However, with the rise of the popularity of cryptocurrencies and other crypto assets, the holders of the crypto assets are met with various trust issues, mainly with the custodial wallets that they have been using. With respectable number of recent incidents involving custodial wallets platforms which lead to lose of crypto assets of their customers have increased this problem.

In this research, the author tries to address this problem by proposing less complex and easy to implement methods that ensure hundred percent liquidity of end users which are the wallet owners. This solution can be integrated with the existing crypto exchanges to ensure their customers' assets are safe at any given time. This system hopes to also stop platform owners from excessive withdrawal of funds from the platform, leaving the liquidity status of the platform at risk and ultimately customers of the platform losing their valuable funds.

## **Subject Descriptors**

- Computer systems organization → Architectures → Distributed architectures → Peerto-peer architectures
- $\bullet \quad \text{Information systems} \rightarrow \text{World wide web} \rightarrow \text{Web applications} \rightarrow \text{Electronic commerce}$ 
  - → Electronic funds transfer