

Bringing the blockchain into the physical world

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Parts of BlocKit. Credit: Irni Khairuddin

A kit made from everyday objects is bringing the blockchain into the physical world.

The 'BlocKit', which includes items such as plastic tubs, clay discs, padlocks, envelopes, sticky notes and battery-powered candles, is aimed to help people understand how digital blockchains work and can also be used by innovators designing new systems and services around blockchain.

A team of computer scientists from Lancaster University, the University of Edinburgh in the UK, and the Universiti Teknologi MARA, in Malaysia, created the prototype BlocKit because blockchain—the decentralised [digital infrastructure](#) that is used to organise the cryptocurrency Bitcoin and holds promise to revolutionise many other

sectors from finance, supply-chain and healthcare—is so difficult for people to comprehend.

"Despite growing interest in its potential, the blockchain is so novel, disruptive and complex, it is hard for most people to understand how these systems work," said Professor Corina Sas of Lancaster University's School of Computing and Communications. "We have created a prototype kit consisting of physical objects that fulfil the roles of different parts of the blockchain. The kit really helps people visualise the different component parts of blockchain, and how they all interact.

"Having tangible physical objects, such as a transparent plastic box for a Bitcoin wallet, clay discs for Bitcoins, padlocks for passwords and candles representing miners' [computational power](#), makes thinking around processes and systems much easier to comprehend."

The BlocKit consisted of physical items that represented 11 key aspects of blockchain infrastructure and it was used to explore key characteristics of blockchain, such as trust—an important challenge for Bitcoin users. The kit was evaluated as part of a study involving 15 experienced Bitcoin users.

"We received very [positive feedback](#) from the people who used the kit in our study and, interestingly, we found that the BlocKit can also be used by designers looking to develop new services based around [blockchain](#)—such as managing patients' health records for example."

The work is outlined in the paper 'BlocKit: a Physical Kit for Materializing and Designing for Blockchain Infrastructure', which was presented at the DIS '19 conference in San Diego.

More information: BlocKit:A Physical Kit for Materializing and Designing for Blockchain Infrastructure,

eprints.lancs.ac.uk/id/eprint/132467/

Provided by Lancaster University

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