An Exploration of Decentralised Identity: A COVID-19 Vaccine Passport

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Abstract

Vaccine passports are beginning to be mentioned more and more in the discourse surrounding the reopening of society following the COVID-19 pandemic. In these discussions Decentralised Identity is seldom far away.

This report looks at what Decentralised Identity is and how it can be applied to a Vaccine Passport using state of the art, production-level software solutions. The intricacies and technical challenges that come with solving such a global issue are matched by the ethical problems that equally need to be considered when designing such solutions.

During the design and research of vaccine passports it was found that the current cohort disregard revocation - a potentially crucial functionality of Decentralised Identity systems. With this in mind, my solution draws on, and improves, the current designs out there.