INFORMATICS INSTITUTE OF TECHNOLOGY

In Collaboration with

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ImmunoPass: A Decentralised Multi-validator Immunisation Passport Maintenance and Verification System

Project Specification Design and Prototype

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ABSTRACT

One of the most data processing domains is healthcare. These are mostly critical patient-related data which needs to be stored securely for future references or as proof for future events. Vaccination (or Immunization) data is a sub-category of the data that is been maintained in the healthcare sector. However, in the modern world most of the countries do not store these data digitally or not at all on healthcare side, instead it's the responsibility of us, the individuals who get vaccinations, to maintain it, mostly on a hard copied booklet. But are these vaccination data easily accessible, no-matter where its stored, digitally, or not, and safe from been manipulated, changed, deleted, lost both accidently and intentionally by us or even any authorised personal (i.e., doctor).

Blockchain technology has been existing for the last couple of years mostly in the areas of finance and crypto mining. Due to the tamperproof and decentralised nature of the blockchain we can also use it to record data that cannot be manipulated and is transparent to the public.

ImmunoPass is a web application that runs on any device which manages all your vaccinations in one place, that can be easily accessible and is built upon the solana blockchain which has a multi-actor/multi-party validation model mechanism to handle the accuracy, integrity and correctness of the vaccination and user data it stores where all the parties taking part in a vaccination process will be responsible for it.

Keywords*:* healthcare, vaccination, immunization, blockchain, crypto mining, decentralised, tamperproof, multi-actor, multi-party, solana.