

## No. Of Functional Features Included In The Solution

|                |                                       |
|----------------|---------------------------------------|
| TEAM ID        | NM2023TMID04391                       |
| PROJECT TITTLE | BLOCKCHAIN POWERED LIBRARY MANAGEMENT |

### Executive Summary

- ❖ LibChain envisions modernised procedures to borrow books from libraries.
  - ❖ Leveraging the blockchain technology, patrons can lend library books directly.
  - ❖ to other patrons without bringing it back to the library first.
- Such transactions.
- ❖ can be made regardless of the registration library, as long as the patrons.
  - ❖ registered with a participating library. Furthermore, the system supports interlibrary borrowing procedures.
  - ❖ Taking into account that LibChain aims to extend current library services, implementing such a system allows a more comfortable and efficient way for patrons to interact with the libraries' ecosystem.

### Motivation

- ❖ In our modern digitalised world, retrieving information is much easier andquicker than ever before.
- ❖ Even though information can be retrieved fromvarious sources, it remains important to provide a reliable source ofknowledge which libraries fulfill.

- ❖ Libraries have been slow to adopt new technologies in their services. Borrowing a book, for instance, maintains the same procedure from decades ago in which all borrowed books must return to the library before they can be borrowed again.
- ❖ Moreover, often cooperation between libraries lacks, which results in multiple registrations from patrons to borrow books from different libraries.
- ❖ Patrons, as well as, can benefit from a system that makes such procedures easier and To this end, the blockchain technology offers a transparent.

### **LibChain:**

- ❖ LibChain's vision embraces an establishment of a libraries' ecosystem that share a book's database and in which every user, regardless of registration's library, can borrow, reserve, and request books from any participant library or from any user that borrowed a book from a cooperating library.
- ❖ The core idea behind LibChain from a technical standpoint is to represent individual books and loans from libraries with so called coloured coins. Coloured coins are used to represent real world assets by addresses in the blockchain and applications.
- ❖ Companies like Everledger have successfully used them to track real world assets such as diamonds, artwork and other high value fraud targets in a permanent, decentralised fashion. In addition, metadata can be stored within a coloured coin.

### **Governance**

- ❖ Governments throughout years are entrusted with managing and holding official records of both citizens and/or enterprises
- ❖ Blockchain-enabled applications might change the way governments at local or state level operate by disintermediating transactions and record keeping (Reijers et al., 2016, Hou, 2017).
- ❖ The accountability, automation, and safety that blockchain offers for handling public records could eventually obstruct corruption and make government services more efficient.
- ❖ In particular, blockchain could serve as a secure communication platform for integrating physical, social, and business infrastructures in a smart city

context (Ibba et al., 2017, Jaffe et al., 2017, Biswas and Muthukkumarasamy, 2016, Sharma et al., 2017).

- ❖ Blockchain governance aims at providing the same services that are offered by the state and its corresponding public authorities in a decentralised and efficient way while maintaining the same validity.
- ❖ Examples of such services include registration or legal documents, attestation, identification, marriage contracts, taxes and voting (Swan, 2015).
- ❖ The World Citizen project (McMillan, 2014) is an example of a decentralised passport service to identify citizens all over the world.
- ❖ Blockchains can also be used to other public services such as marriage registration, patent management, and income taxation systems (Akins et al., 2013).
- ❖ Other projects focus on ideas such as delegative democracy, where delegates (instead of parliamentary representatives) take the voting power (Swan, 2015). Similarly, Holacracy (Robertson, 2015) is a customisable self-management practice for organisations where authority and decision-making are distributed throughout self-organising teams instead of relying on a typical hierarchical organisation setting.

