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Transactional Blockchain and Ecosystem

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Abstract: *Blockchain is a ledger that does not require any central authority and it is not only used for cryptocurrencies such as Bitcoins, Ethereum. In this paper it is shown that how blockchain help for jobseekers and how they can make use of it and blockchain provides security, integrity, and anonymity. It creates interesting research areas in the perspective of technical challenges. Our objective is to understand the current research topic. This blockchain will also keep of transactions, the purpose of each transaction and document reference if any to implement business transactions.*

Keywords: Decentralization, Integrity, Anonymity

I. INTRODUCTION

Most of the blockchain platform are meant for financial transactions like send/receive or credit/debit. This blockchain will also keep track of transactions, the purpose of each transaction and document reference if any to implement business transactions. This blockchain is specially designed to support people related transactions for jobseeker recruitment transactions like CV submission, interview, joining bonus and so on... employment related transactions like awards, rewards, retention gratuity and so on ...based on the concept called Proof of Effort (POE)

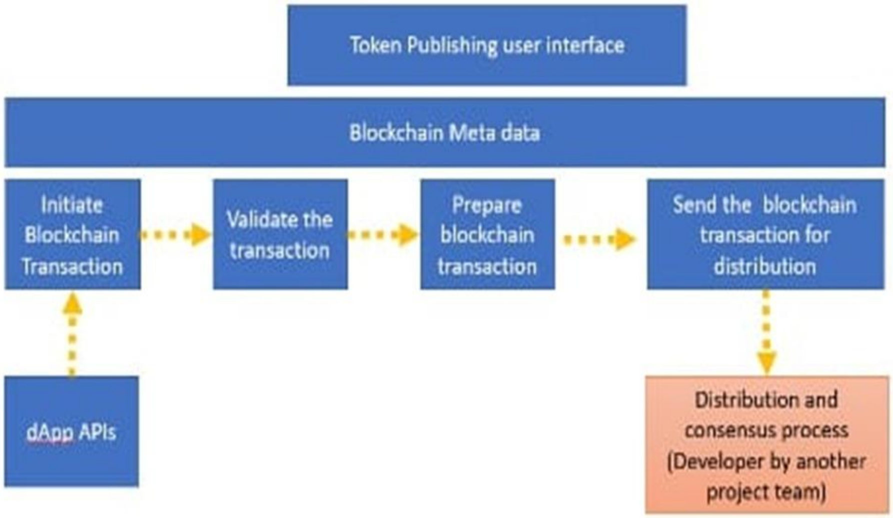
Token Publishing user interface
Blockchain Meta data
Initiate Blockchain Transaction
Validate the transaction
Prepare blockchain transaction
Send the blockchain transaction for distribution
dApp APIs
Distribution and consensus process (Developer by another project team)

Figure: Blockchain Architecture

II. PROBLEM IDENTIFICATION

Most of the current blockchains like Solana Blockchain perform around fifty thousand transactions per second, but our blockchain performs around one lakh transactions per second. Most of the Blockchains perform only buy/sell transactions but our blockchain apart from buy/sell it also keep track of each transaction and document reference to implement business transactions

III. METHODOLOGY

- The blockchain data structure is a back-linked lists of blocks of transactions, which is ordered. It can be stored as a flat file or in a simple database.

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- Each block is identifiable by a hash, generated using the SHA256 cryptographic hash algorithm. Each block references a previous block, also known as the parent block, in the “previous block hash” field, in the block header.
- Each block in the blockchain contains a summary of all the transactions in the block, using a Merkle Tree.
- The Merkle tree is constructed bottom-up. In Figure 8, we start with four transactions; denoted as Tx A, Tx B, Tx C, Tx D. These transactions are not stored in the Merkle tree, rather their data is hashed, and the resulting hash is stored in each leaf node as HA, HB, HC and HD.
- The mathematical function for the derivation of HA can be seen as HA = SHA256(SHA256(Transaction A)), where transaction A has been cryptographically hashed twice using SHA256.
- Consecutive pairs of nodes are then merged in a parent node, by concatenating the two hashes and hashing them together. Following the example, to construct the parent node HAB, the two 32-byte hashes of the children are concatenated to create a 64- byte string. That string is then double hashed to produce the parent node’s hash:
  HAB = SHA 256(SHA 256(HA + HB))

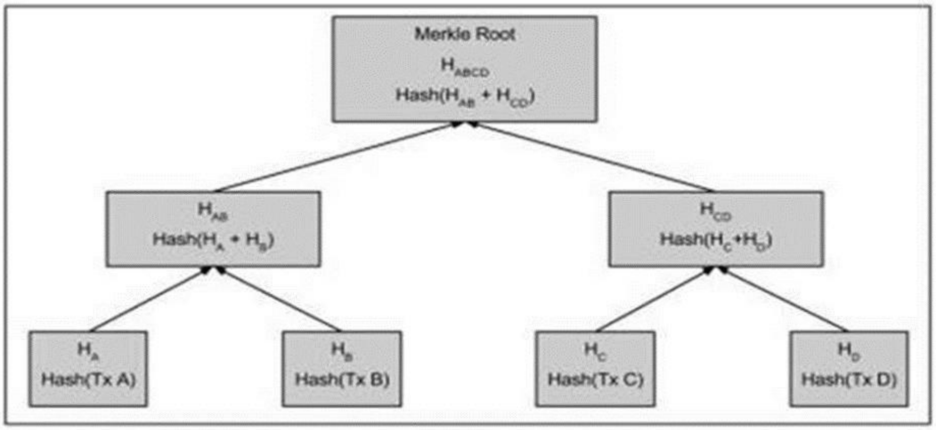


Figure 1: Merkle Tree

IV. IMPLEMENTATION

Blockchain Transaction APIS

1. opCreateWallet

Purpose: API create a new token a new user/entity

Steps:

- Validate the input information that include password based hash validation.
- If the data is found to be valid, then check the availability of the token symbol in the token ID table
- In case token is not found, then create the token in tokens table along with user credentials
- In case the token is found, then return error stating “Token exists.”

2. opTokensList:

Purpose: API to fetch list of existing token ID and their title.

Steps:

- The token id is of 5 characters.
- Validate the input which is entered by the user and validate using hash.
- Each user has a unique token id and assigned with a token symbol by that it will compare with the existing token id within millisecond.
- If in case if it matches with the existing symbol and Token id it fetches token Id.

3. opTokeChangePWD

Purpose: API to change the password of the token ID

Steps:

- If in case the user forgets his old password nobody can help he will lose his coins.
- There will be 3 fields in changing the password
  - User name
  - Existing Password
  - Enter new password
- If in case the existing password matches it will allow to change the password else it will not allow
- After allowing to change to new password it will send the authentication to our mail id.

4. opCreateWallet

Purpose: Create wallet for an user

The wallet consists of:

- **User ID**: Unique ID allocated to user
- **Safe keys**: List of safe keys used to generate wallet ID
- **First Name**: First name of the user
- **Last Name**: Last name of the user
- **Email ID**: Email ID of the user
- **Token Balance**: Decimal value of token balance
- **H Key**: Hash key of row data
- **Wallet ID**: SHA-256 Hash key having User ID, Safe keys and First Name

5. trMint

Purpose: API to mint tokens by the token creator.

It consists of following information:

- **Token ID**: A 40 bit unique ID (5 Characters) assigned to token/coin
- **Token Name**: A detailed name of the token
- **User H Key**: 256bit User Hash key based on user name, password, secret words and first node
- **User name**: A 24 character User name used to login to blockchain admin console
- **Password H Key**: 256bit Hash of password
- **First Node**: An integer number indicating Node on which the token was create first
- **Size**: Total number of digits of the tokens
- **Dec**: Numbers of decimals of the token
- **DH Key**: Total data hash key of this record
- **PH Key**: DH key of previous record created before this record

6. trTransfer

Purpose: Transfer tokens from one wallet to another wallet

To transfer tokens

- **Date/time**: Date/time when the transaction was created
- **From**: Transaction sender
- **To**: Transaction receiver
- **Token ID**: Token ID of transaction is a symbol assigned to the token/coin
- **Value**: Value of transaction
- **Hash**: Hash value of transaction data
- **P Hash**: Hash value of previou

V. ALGORITHM

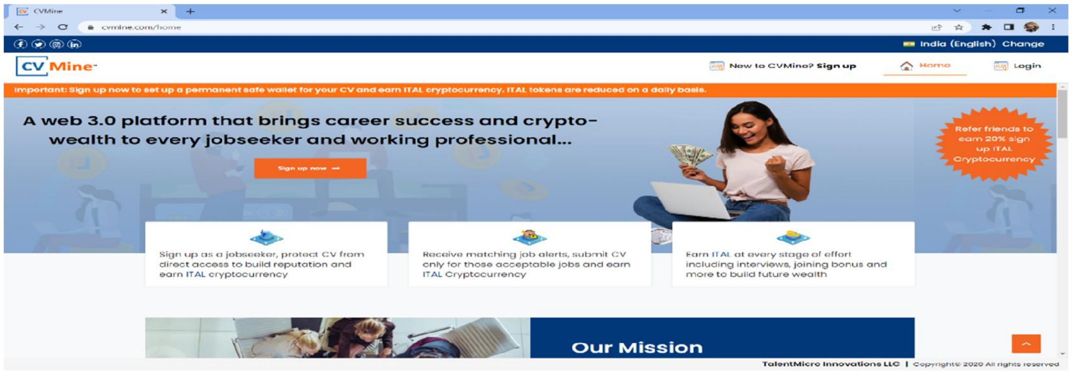
Take two users A and user B who are trying to make a transaction. The steps would be as follows:

- **Step 1**: User A wants to send money to User B. Each of them holds a private and public key. User A adds money to a digital wallet (say Bitcoin) and allows the money to be sent using an encrypted digital signature.
- **Step 2**: The requested transaction is broadcasted through a peer-to-peer network (consisting of computers known as nodes) using a Public Key.
- **Step 3**: The network of nodes validates the transaction and the user's status using known algorithms.
- **Step 4**: Computers in the connected network verify and validate the transaction. This transaction would include cryptocurrency, contracts, records, or other information.
- **Step 5**: Once validated the transaction is combined with other the transaction to create a new block of data for the ledger. From the User A perspective, the transaction is complete and money is moving to User B.
- **Step 6**: Transaction complete.

Note: Steps 4 and 5 are complementary steps. The transaction is confirmed after Step 3; however, block confirmation and further transaction reconfirmations, if required, are then carried out in Step 4 and Step 5.

VI RESULTS

1. From the statistically analysed optimal and minimal set of parameters this helps in earlydetection of POCOS
2. The solution is to take data from the user as input and should return the output with theeffective algorithm as the person/patient affected by POCOS or not.
3. While comparing the various algorithms used AdaBoost Classifier algorithm is foundmore accurate.
4. This is helpful for the doctors for early screening and diagnosing patients.



Important: Sign up now to set up a permanent safe wallet for your CV and earn ITAL cryptocurrency. ITAL tokens are reduced on a daily basis.

A web 3.0 platform that brings career success and crypto-wealth to every jobseeker and working professional...

Sign up as a jobseeker, protect CV from direct access to build reputation and earn ITAL cryptocurrency

Receive matching job alerts, submit CV only for those acceptable jobs and earn ITAL Cryptocurrency

Earn ITAL at every stage of effort including interviews, joining bonus and more to build future wealth

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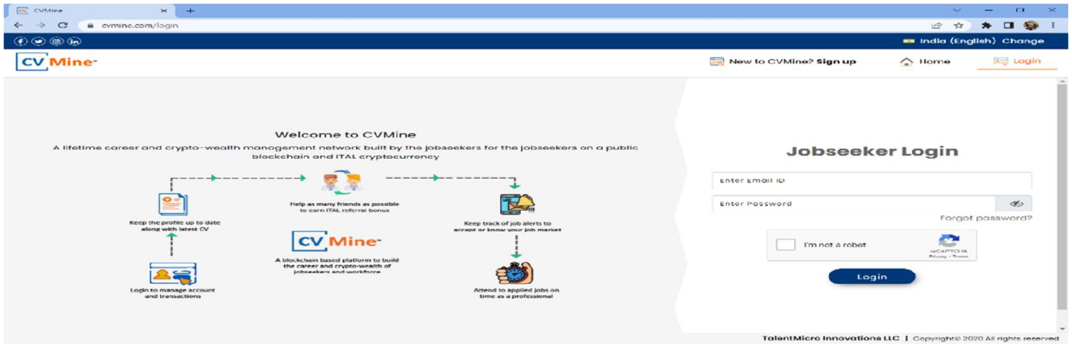
CVMine
cvmine.com/login
India (English) Change
CV Mine
New to CVMine? Sign up
Home
Login
Keep the profile up to date along with latest CV
Help as many friends as possible to earn ITAL referral bonus
Keep track of job alerts to accept or know your job market
Login to manage account and transactions
CV Mine
A blockchain based platform to build the career and crypto-wealth of jobseekers and workforce
Attend to applied jobs on time as a professional
Forgot password?
I'm not a robot
reCAPTCHA
Login

Welcome to CVMine

A lifetime career and crypto-wealth management network built by the jobseekers for the jobseekers on a public blockchain and ITAL cryptocurrency

Jobseeker Login

Enter Email ID

Enter Password

□ I'm not a robot

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VII. CONCLUSION

We are working on a transactional blockchain design that support not only send and receive transactions but also additional information in the blockchain support provides the purchase, stage and documents to which the transaction is processed. Support higher throughput of transaction compared to many blockchains like Bitcoin, Ethereum and the likes.

The primary purpose of the transactional blockchain is to support jobseeker and workforce transactions across the world. This has to process and manage up to 3 billion workforces of the world. This mean the blockchain under design must support at least 3 billion transactions per day

VIII. ACKNOWLEDGMENTS

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