

CLAIMS

1. A computer-implemented method for digital asset transfer, comprising:
obtaining a request for transferring a quantity of a digital asset from a first blockchain account associated with a blockchain to a second blockchain account associated with the blockchain, wherein the request identifies a tangible asset corresponding to the digital asset;
determining a blockchain contract that is deployed on the blockchain and that corresponds to the tangible asset identified in the request;
generating, based on the obtained request, a blockchain transaction for transferring the quantity of the digital asset from the first blockchain account to the second blockchain account, wherein the blockchain transaction invokes the determined blockchain contract; and
sending the generated blockchain transaction to a blockchain node for adding to the blockchain.

2. The method of claim 1, wherein the blockchain transaction comprises:
an identifier associated with the blockchain contract;
an identifier associated with the first blockchain account;
an identifier associated with the second blockchain account; or
the quantity of the digital asset to be transferred.

3. The method of any of the preceding claims, further comprising, before generating the blockchain transaction:
determining, based on the obtained request, one or more permissions associated with a sender of the request for transferring the digital asset; and
verifying that the permissions associated with the sender satisfy one or more required permissions for transferring the digital asset from the first blockchain account to the second blockchain account.

4. The method of any of the preceding claims, further comprising, before generating the blockchain transaction:
obtaining, from the blockchain, data associated with the first blockchain account;
determining, based on the obtained data, a quantity of the digital asset in the first blockchain account; and

verifying that the determined quantity of the digital asset in the first blockchain account is no less than the quantity of the digital asset to be transferred.

5. The method of any of the claims 1 to 2, further comprising, before generating the blockchain transaction:

determining, based on the blockchain contract, one or more required permissions for transferring the digital asset; and

determining, based on the obtained request, that transferring the digital asset from the first blockchain account to the second blockchain account satisfies the one or more required permissions.

6. The method of any of the preceding claims, further comprising, before generating the blockchain transaction:

obtaining, from the request, a proof that an entity associated with the first blockchain account approved the transfer of the digital asset.

7. The method of any of the preceding claims, further comprising, subsequent to sending the generated blockchain transaction to the blockchain node for adding to the blockchain:

obtaining a request for reversing the blockchain transaction for transferring the quantity of the digital asset from the first blockchain account to the second blockchain account;

generating, based on the obtained request for reversing the blockchain transaction, a blockchain transaction for transferring the quantity of the digital asset from the second blockchain account to the first blockchain account; and

sending the generated blockchain transaction for transferring the quantity of the digital asset from the second blockchain account to the first blockchain account to the blockchain node for adding to the blockchain.

8. The method of any of the preceding claims, further comprising, before obtaining the request for transferring the quantity of the digital asset from the first blockchain account to the second blockchain account:

generating a blockchain transaction for issuing a quantity of the digital asset to the first blockchain account, wherein the blockchain transaction for issuing the digital asset invokes the blockchain contract; and

sending the blockchain transaction for issuing the digital asset to the blockchain node for adding to the blockchain.

9. The method of any of the claims 1 to 6, further comprising:

obtaining a request for buying back the transferred digital asset from the second blockchain account;

generating a blockchain transaction for transferring the transferred digital asset from the second blockchain account to a buy-back blockchain account associated with the blockchain, wherein the blockchain contract comprises a restriction prohibiting transfer of the digital asset out of the buy-back blockchain account; and

sending, to the blockchain node for adding to the blockchain, the blockchain transaction for transferring the transferred digital asset from the second blockchain account to the buy-back blockchain account.

10. The method of any of the preceding claims, further comprising:

obtaining one or more blocks of the blockchain;

extracting, from the obtained one or more blocks, one or more blockchain transactions invoking the blockchain contract; and

determining a transaction history associated with the digital asset based on the one or more extracted blockchain transactions.

11. The method of any of the claims 1-9, further comprising:

obtaining one or more blocks of the blockchain;

extracting, from the obtained one or more blocks, one or more blockchain transactions associated with the first blockchain account; and

determining a transaction history associated with the first blockchain account based on the one or more extracted blockchain transactions.

12. The method of any of the preceding claims, further comprising:

locally storing information associated with the blockchain transaction for transferring the quantity of the digital asset from the first blockchain account to the second blockchain account.

13. The method of any of the preceding claims, further comprising, before generating the blockchain transaction for transferring the quantity of the digital asset from the first blockchain account to the second blockchain account:

querying for any restriction placed on the first blockchain account or the second blockchain account; and

verifying that transferring the quantity of the digital asset from the first blockchain account to the second blockchain account is not prohibited by any restriction placed on the first blockchain account or the second blockchain account.

14. The method of any of the preceding claims, further comprising, before generating the blockchain transaction for transferring the quantity of the digital asset from the first blockchain account to the second blockchain account:

querying for any restriction placed on the digital asset; and

verifying that transferring the quantity of the digital asset from the first blockchain account to the second blockchain account is not prohibited by any restriction placed on the digital asset.

15. A system for digital asset transfer, comprising:

one or more processors; and

one or more computer-readable memories coupled to the one or more processors and having instructions stored thereon that are executable by the one or more processors to perform the method of any of claims 1 to 14.

16. An apparatus for digital asset transfer comprising a plurality of modules for performing the method of any of claims 1 to 14.

17. A non-transitory computer-readable storage medium configured with instructions executable by one or more processors to cause the one or more processors to perform the method of any of claims 1 to 14.