Claims

1. A method comprising:

- receiving, by at least one processor, an activity initiation request from a first client device associated with a first user;

  wherein the activity initiation request comprises:

  - at least one operation for exchange of a first token type for a second token type, and
  - at least one reverse operation for exchange of the second token type for the first token type upon at least one condition being satisfied;

    wherein the first token type comprises a first cryptographic hash on a blockchain;
    wherein the second token type comprises a second cryptographic hash on the blockchain;

  wherein the first client device is a node on the blockchain;

- receiving, by the at least one processor, an activity initiation response from a second client device associated with a second user;

  wherein the activity initiation response indicates an acceptance of the activity initiation request, the acceptance corresponding to the at least one operation and the at least one reverse operation within the activity initiation request;
  wherein the second client device is a node on a blockchain;

- generating, by the at least one processor, at least one self-executing software container (SESC) on the blockchain;

wherein the at least one SESC comprises a plurality of instructions for execution of the at least one operation and the at least one reverse operation based at least in part on the at least one condition;
wherein the plurality of instructions of the at least one SESC causes the at least one processor to:

- detect a transfer of the first token type into a first segregated token storage;

wherein the first segregated token storage is associated with a first segregated data structure of a third-party entity;
wherein the first client device has permissions to access the first segregated token storage;
wherein the first segregated data structure comprises a schema configured to store the first token type;

- detect a transfer of the second token type from a second token storage associated with the second client device to a first token storage associated with the first client device;
- automatically initiate a transfer of the first token type from the first segregated data structure to a second segregated token storage in response to the transfer of the second token type;

  wherein the second segregated token storage is associated with a second segregated data structure of the third-party entity;
  wherein the second client device has condition-dependent permissions to access the second segregated token storage;
  wherein the first segregated data structure comprises a schema configured to store the first token type;

- detect the at least one reverse operation matching the at least one condition; and
- initiate a transfer via the detected at least one reverse operation of the first token type from the second segregated token storage back to the first segregated token storage.

2. The method of claim 1,
wherein the activity initiation request comprises activity parameters comprising at least one of:

- a first token transfer amount associated with the first token type,
- a second token transfer amount associated with the second token type,
- at least one condition identifier identifying the at least one condition,
- a time identifier identifying a time limit to satisfy the at least one condition,
- a first client device identifier identifying the first client device, and
- a second client device identifier identifying the second client device.

3. The method of claim 2, further comprising:

- generating, by the at least one processor, at least one instruction of the plurality of instructions based at least in part on each activity parameter of the activity parameters; and
- generating, by the at least one processor, the at least one SESC based at least in part on the plurality of instructions.

4. The method of claim 2 or 3, further comprising:

- determining, by the at least one processor, a first token stored amount of the first token type in a first token storage associated with the first client device;
- generating, by the at least one processor, a segregated first token type having the first token transfer amount;
- generating, by the at least one processor, a stored first token type having an updated first token stored amount of the first token stored amount less the first token transfer amount;
- deleting, by the at least one processor, the first token stored amount of the first token type from the first token storage;
- adding, by the at least one processor, the updated first token stored amount to the first token storage; and
- transferring, by the at least one processor, the first token transfer amount of the first token type into a first segregated token storage.

5. The method of one of claims 1 to 4,
further comprising:

- receiving, by the at least one processor, an asset-linked data segregation message comprising an indication of a movement of a first asset-linked data into the first segregated data structure; and
- generating, by the at least one processor, the first token type in the first segregated token storage to represent the first asset-linked data in the first segregated data structure; and/or

further comprising:

- receiving, by the at least one processor, an asset-linked data provision message comprising an indication of a provision of a second asset-linked data in a second client data structure;

  wherein the second client data structure comprises a schema configured to store the second asset-linked data; and
- generating, by the at least one processor, the second token type in a second client token storage to represent the second asset-linked data in the second client data structure.

6. The method of one of claims 1 to 5,
wherein the first client device, the second client device and the third-party entity are associated with a particular entity; and
wherein the first segregated data structure and the second segregated data structure are the same segregated data structure.

7. The method of one of claims 1 to 6,
further comprising instructing, by the at least one processor, at least one display associated with the first client device to render a second token type receipt notification indicating receipt of the second token type in the first token storage, and preferably further comprising:

- receiving, by the at least one processor, at least one first token type return request from the first client device;
  wherein the first token type return request comprises a return of the second token type according to the at least one condition; and
- initiating, by the at least one processor, the at least one reverse operation.

8. The method of one of claims 1 to 7,
further comprising instructing, by the at least one processor, at least one display associated with the first client device to render a first token type return notification indicating receipt of the first token type in the first segregated token storage.

9. A system comprising:

- at least one processor configured to execute software instructions, wherein the software instructions, upon execution, cause the at least one processor to perform steps to:
  - receive activity initiation request from a first client device associated with a first user;

    wherein the activity initiation request comprises:

    - at least one operation for exchange of a first token type for a second token type, and
    - at least one reverse operation for exchange of the second token type for the first token type upon at least one condition being satisfied;

      wherein the first token type comprises a first cryptographic hash on a blockchain;
      wherein the second token type comprises a second cryptographic hash on the blockchain;

    wherein the first client device is a node on the blockchain;
  - receive an activity initiation response from a second client device associated with a second user;

    wherein the activity initiation response indicates an acceptance of the activity initiation request, the acceptance corresponding to the at least one operation and the at least one reverse operation within the activity initiation request;
    wherein the second client device is a node on a blockchain;
  - generate at least one self-executing software container (SESC) on the blockchain;

wherein the at least one SESC comprises a plurality of instructions for execution of the at least one operation and the at least one reverse operation based at least in part on the at least one condition;
wherein the plurality of instructions of the at least one SESC is configured to:

- detect a transfer of the first token type into a first segregated token storage;

  wherein the first segregated token storage is associated with a first segregated data structure of a third-party entity;
  wherein the first client device has permissions to access the first segregated token storage;
  wherein the first segregated data structure comprises a schema configured to store the first token type;

- detect a transfer of the second token type from a second token storage associated with the second client device to a first token storage associated with the first client device;
- automatically initiate a transfer of the first token type from the first segregated data structure to a second segregated token storage in response to the transfer of the second token type;

  wherein the second segregated token storage is associated with a second segregated data structure of the third-party entity;
  wherein the second client device has condition-dependent permissions to access the second segregated token storage;
  wherein the first segregated data structure comprises a schema configured to store the first token type;

- detect the at least one reverse operation matching the at least one condition; and
- initiate a transfer via the detected at least one reverse operation of the first token type from the second segregated token storage back to the first segregated token storage.

10. The system of claim 9,

wherein the activity initiation request comprises activity parameters comprising at least one of:

- a first token transfer amount associated with the first token type,
- a second token transfer amount associated with the second token type,
- at least one condition identifier identifying the at least one condition,
- a time identifier identifying a time limit to satisfy the at least one condition,
- a first client device identifier identifying the first client device, and
- a second client device identifier identifying the second client device.

11. The system of claim 10,

wherein the at least one processor is further configured to execute the software instructions which cause the at least one processor to perform steps to:

- generate at least one instruction of the plurality of instructions based at least in part on each activity parameter of the activity parameters; and
- generate the at least one SESC based at least in part on the plurality of instructions,

wherein the at least one processor is preferably further configured to execute the software instructions which cause the at least one processor to perform steps to:

- determine a first token stored amount of the first token type in a first token storage associated with the first client device;
- generate a segregated first token type having the first token transfer amount;
- generate a stored first token type having an updated first token stored amount of the first token stored amount less the first token transfer amount;
- delete the first token stored amount of the first token type from the first token storage;
- add the updated first token stored amount to the first token storage; and
- transfer the first token transfer amount of the first token type into a first segregated token storage.

12. The system of one of claims 9 to 11,
wherein the at least one processor is further configured to execute the software instructions which cause the at least one processor to perform steps to:

- receive an asset-linked data segregation message comprising an indication of a movement of a first asset-linked data into the first segregated data structure; and
- generate the first token type in the first segregated token storage to represent the first asset-linked data in the first segregated data structure; and/or

wherein the at least one processor is further configured to execute the software instructions which cause the at least one processor to perform steps to:

- receive an asset-linked data provision message comprising an indication of a provision of a second asset-linked data in a second client data structure;
  wherein the second client data structure comprises a schema configured to store the second asset-linked data; and
- generate the second token type in a second client token storage to represent the second asset-linked data in the second client data structure.

13. The system of one of claims 9 to 12,
wherein the first client device, the second client device and the third-party entity are associated with a particular entity; and
wherein the first segregated data structure and the second segregated data structure are the same segregated data structure.

14. The system of one of claims 9 to 13,
wherein the at least one processor is further configured to execute the software instructions which cause the at least one processor to perform steps to instruct at least one display associated with the first client device to render a second token type receipt notification indicating receipt of the second token type in the first token storage,

wherein the at least one processor is preferably further configured to execute the software instructions which cause the at least one processor to perform steps to:

- receive at least one first token type return request from the first client device;

  wherein the first token type return request comprises a return of the second token type according to the at least one condition; and

- initiate the at least one reverse operation.

15. The system of one of claims 9 to 14,
wherein the at least one processor is further configured to execute the software instructions which cause the at least one processor to perform steps to instruct at least one display associated with the first client device to render a first token type return notification indicating receipt of the first token type in the first segregated token storage.