

Claims

1. A computer-implemented method of performing a transaction using a coin associated with a blockchain, the method comprising:
 - 5 ~~storing-transmitting~~ a first set of information relating to the transaction for recordal on the blockchain associated with ~~in relation to the coin~~; and
 - ~~storing-transmitting~~ a second set of information relating to the transaction ~~in for storage at a~~ datastore separate to the coin; and
 - providing an output relating to the first set of information and/or the second set of information.
- 10 2. The method of any preceding claim, wherein the first set of information comprises one or more of:
 - a transaction amount;
 - a sender; and
 - a recipient.
- 15 ~~3. The method of claim 2, wherein the first set of information comprises a sender and/or recipient, preferably wherein the sender and/or recipient comprises an identifier, more preferably wherein the sender and/or recipient comprises a randomly generated and/or pseudo-randomly generated identifier.~~
- 20 ~~4. The method of claim 2, wherein the first set of information consists of a transaction amount.~~
- ~~5.3.~~ The method of any preceding claim, wherein the second set of information comprises provenance information and/or wherein the second set of information comprises at least one of:
 - 25 a reason for the transaction;
 - an assessment of a/the sender and/or a/the recipient, such as an indication of a trust level; and
 - information added by a third party following the transaction.
- 30 ~~6. The method of any preceding claim, wherein the first set of information is stored on a blockchain.~~
- ~~7.4.~~ The method of any preceding claim, wherein the second set of information is stored in a digital currency wallet.
- ~~8.5.~~ The method of any preceding claim, comprising providing an output relating to the second set of information in dependence on a request, preferably wherein the request comprises an indication that a requesting party is authorised to access the second set of information.
- 35 ~~9.6.~~ The method of any preceding claim, wherein the storing of the second set of information occurs in dependence on a feature of the transaction, preferably wherein the datastore in which the second set of information is stored depends on the feature of the transaction.
- 40 ~~10.7.~~ The method of claim ~~669~~, wherein the composition of the first set of information and/or the second set of information depends on the feature of the transaction.
- 45 ~~11.8.~~ The method of claim ~~669~~ or ~~7710~~, wherein the feature comprises one or more of:
 - an ecosystem in which the transaction takes place;
 - a determination that the transaction relates to a movement of the coin between two ecosystems;
 - a party relating to the ecosystem;
 - a party controlling and/or overseeing the ecosystem;
 - 50 a country and/or location in which the transaction occurs;
 - the sender; and
 - the recipient.

~~12.9.~~ The method of any preceding claim, comprising a further datastore arranged to store information relating to further transactions, preferably wherein the datastore relates to a first ecosystem and the further datastore relates to a second ecosystem, more preferably wherein the second set of information is stored in either the database or the further database in dependence on whether the transaction occurs in the first ecosystem or the second ecosystem.

~~13.10.~~ The method of any preceding claim, further comprising determining an ecosystem in which the transaction has taken place.

11. The method of any preceding claim, further comprising only storing the second set of information if the transaction occurs in the first ecosystem.

~~14. A computer implemented method of performing a transaction using a coin, the method comprising:
storing a first set of information relating to the transaction in relation to the coin;
determining an ecosystem in which the transaction has taken place; and
storing a second set of information relating to the transaction in a datastore separate to the coin, wherein the datastore in which the second set of information is stored depends on the ecosystem in which the transaction has taken place.~~

~~15. The method of claims 13 to 15, wherein the composition of the second set of information is dependent on the ecosystem in which the transaction has taken place.~~

~~16.12.~~ The method of any of claims ~~101013 to 16~~ or 11, further comprising determining a spending rule in dependence on the ecosystem in which the transaction has taken place; and altering the fungibility of the coin in dependence on the spending rule, preferably wherein the spending rule relates to at least one of:
an industry in which the coin is allowed to be used;
a good and/or service for which the coin is allowed to be used;
a recipient to whom the coin is allowed to be sent; and
a purpose for which the coin is allowed to be used.

13. The method of any preceding claim, wherein the datastore is capable of transmitting data from the second set of information to the further datastore and/or a further party.

~~17. The method of claim 18, wherein the datastore is arranged to transmit the data in dependence on a data request, preferably wherein the data request comprises one or more of:
provenance information relating to a separate transaction;
a proof of identity;
a monetary reward;
a mining reward, preferably wherein the mining reward relates to activity on the a/the blockchain;
and
information relating to a separate transaction performed in relation to the coin.~~

~~18. The method of claim 19, wherein the data request comprises evidence of information held by the datastore, preferably wherein the data request comprises evidence of provenance information held by the datastore.~~

~~19. The method of claim 19 or 20, wherein the data request comprises a zero knowledge proof.~~

~~20.14.~~ The method of any of claims ~~131318, to 21,~~ further comprising determining a party that is authorised to receive data from the second set of information; and transmitting the data to the second party, preferably wherein the authorisation of the party is determined before the transaction occurs.

- 5 ~~21.15.~~ The method of ~~any of claims 131318 to or 141422~~, further comprising transmitting the data to a party related to a/the second ecosystem, preferably transmitting the data in dependence on receiving similar data from the party related to the second ecosystem.
- ~~22.16.~~ The method of any preceding claim, further comprising:
determining a state of fungibility of the coin; and
completing the transaction in dependence on the state of fungibility.
- 10 ~~23.~~ A computer implemented method of performing a transaction using a coin, the method comprising:
determining a state of fungibility of the coin; and
completing the transaction in dependence on the state of fungibility.
- 15 ~~24.~~ A method according to claim 24 or 25, wherein the coin comprises an indication of the state of fungibility.
- ~~25.~~ A method according to any of claims 24 to 26, wherein the possible states of fungibility comprise at least one of: fungible, non-fungible, or partially fungible.
- 20 ~~26.~~ A method according to claim 27, wherein:
coins that are not fungible can only be exchanged with the permission of the receiving party;
and/or
coins that are not fungible are prohibited from being exchanged with one or more parties.
- 25 ~~27.~~ A method according to any of claims 24 to 28, wherein the state of fungibility is alterable in dependence on a feature of the transaction, preferably wherein the feature comprises at least one of: a party to the transaction; a market sector of the transaction; a good and/or service involved in the transaction; an elapsed time; and the number of transactions for which the coin has been used.
- 30 ~~28.~~ A method according to claim 29, wherein the state of fungibility is arranged to be altered automatically in dependence on a feature of the coin, preferably wherein the state of fungibility data is arranged to be altered in dependence on an algorithm, an artificial intelligence, and/or a machine learning process.
- 35 ~~29.~~ A method according to claim 29 or 30, wherein the state of fungibility is alterable by a third party, preferably wherein the state of fungibility is alterable by a government institution and/or a central bank.
- ~~30.~~ A method according to any of claims 24 to 31, wherein the state of fungibility is arranged to be altered in dependence on a term of a smart contract relating to the coin, preferably wherein the terms of the smart contract are stored on the coin.
- 40 ~~31.~~ A method according to claim 32, wherein the smart contract comprises an indication of allowable transactions, preferably wherein the coin is arranged to only be useable for allowable transactions and/or wherein use of the coin for non-allowable transactions results in a change in the state of fungibility.
- 45 ~~32.~~ A method according to claim 32 or 33, wherein the smart contract comprises information relating to authorised parties that are able to alter the state of fungibility of the coin and/or are able to view information relating to the coin.
- 50 ~~33.~~ A method according to any of claims 24 to 34, further comprising providing an indication of the state of fungibility, preferably wherein the indication is only provided if the coin is not in a fungible state.
- ~~34.~~ A method according to any of claims 24 to 35, wherein the coin has a fixed value, preferably wherein the value of the coin is fixed at the time of issue of the coin.

35. ~~A method according to any of claims 24 to 36, comprising completing the transaction using a plurality of coins, wherein each of the plurality of coins has a different, fixed, value.~~
- 5 36. ~~A method according to any of claims 24 to 37, wherein the coin contains an indication of a fiat currency and/or commodity for which the coin can be exchanged.~~
37. ~~A method according to any of claims 24 to 38, wherein the coin contains an indication of an exchange rate for which the coin can be exchanged.~~
- 10 38. ~~A method according to any of claims 24 to 39, wherein the coin comprises provenance data.~~
17. ~~A method according to claim 40, 16, wherein the state of fungibility is arranged to change in dependence on the provenance data.~~
- 15 39. ~~A method according to claim 40 or 41, wherein the provenance data relates to the history of ownership of the coin, the transactional history of the coin, and/or the history of the state of fungibility of the coin.~~
- 20 40. ~~A method according to any of claims 40 to 42, wherein the coin is arranged so that provenance information is required to be verified by a third party before the provenance information is added to the provenance data.~~
- 25 41. ~~A method according to any of claims 40 to 43, wherein the provenance data comprises:
a first set of data that is determined at the time of the transaction and is thereafter immutable; and
a second set of data that is alterable following the transaction.~~
- 30 42. ~~A computer implemented method of providing a coin, wherein the coin comprises provenance data and the provenance data comprises:
a first set of data that is determined at the time of the transaction and is thereafter immutable; and
a second set of data that is alterable following the transaction.~~
- 35 43. ~~A method according to claim 44 or 45, wherein the second set of data is alterable by a third party, preferably an authorised third party.~~
44. ~~A method according to any of claims 40 to 46, further comprising updating the provenance data of the coin following the transaction.~~
- 40 45. ~~A method according to claim 47, further comprising updating the provenance data of the coin based on the usage of a similar coin.~~
46. ~~A method according to any of claims 40 to 48, further comprising predicting future transactions based on the provenance data, preferably further comprising outputting the prediction.~~
- 45 47. ~~A method according to any of claims 40 to 49, further comprising valuating the transaction and outputting the evaluation.~~
48. ~~A method according to any of claims 40 to 50, wherein completing the transaction requires one or more parties to the transaction to record provenance data relating to the transaction.~~
- 50 49. ~~A method according to any preceding claim, wherein completing the transaction requires consensus from one or more third parties.~~

50. ~~A method according to any preceding claim, further comprising recording the consent of each party to the transaction at the time of the transaction.~~
- 5 51. ~~A method according to any preceding claim, wherein the coin is permissioned so as to allow only permissioned parties to view data relating to the coin.~~
52. ~~A method according to any preceding claim, wherein completing the transaction comprises recording confirmation from each party to the transaction.~~
- 10 53. ~~A method according to any preceding claim, wherein the coin comprises at least one of: an owner field, a value field, an identifier, conditions of use.~~
54. ~~A method according to any preceding claim, wherein the coin is automatically redeemed upon completion of the terms of a smart contract.~~
- 15 55. ~~A method according to any preceding claim, wherein the coin may be divided into a plurality of sub-coins, wherein the value of each sub-coin differs from the value of the coin, and wherein each sub-coin inherits properties from the coin.~~
- 20 56. ~~A method according to any preceding claim, wherein the coin comprises an indication of a state of fungibility, and wherein the state of fungibility is alterable.~~
57. ~~A computer-implemented method of altering the state of fungibility of a coin, wherein the coin comprises an indication of a state of fungibility.~~
- 25 58. ~~A computer-implemented method of performing a transaction using a coin, wherein the coin comprises provenance data and the provenance data comprises: a first set of data that is determined at the time of the transaction and is thereafter immutable; and a second set of data that is alterable following the transaction, the method comprising:~~
- 30 ~~determining a state of fungibility of the coin;~~
~~completing the transaction in dependence on the state of fungibility;~~
~~updating the provenance data in dependence on a feature of the transaction; and~~
~~altering the state of fungibility of the coin in dependence on the provenance data.~~
- 35 59. ~~A computer implemented coin, the coin comprising an indication of a state of fungibility.~~
60. ~~A computer-implemented coin, the coin comprising provenance data, preferably wherein the provenance data comprises:~~
- 40 ~~a first set of data that is determined at the time of the transaction and is thereafter immutable; and~~
~~a second set of data that is alterable following the transaction.~~
61. ~~A method of performing a transaction using a computer-implemented coin according to claim 62 or 63.~~
- 45 18. An apparatus arranged to perform the method of any preceding of claims 1 to 61 or 64.
62. ~~A computer program comprising software code adapted when executed to carry out the method of any of claims 1 to 61 or 64.~~
- 50 63. ~~An apparatus arranged to execute the computer program of claim 66.~~

64.19. An apparatus arranged to perform a transaction using a coin associated with a blockchain, the apparatus comprising:

~~means, optionally a processor, for transmitting storing a first set of information relating to the transaction for recordal in relation to on the blockchain associated with the coin;~~

~~means, optionally a processor, for storing-transmitting a second set of information relating to the transaction in-for storage at a datastore separate to the coin; and~~

~~means, optionally a display, for providing an output relating to the first set of information and/or the second set of information.~~

65. ~~An apparatus arranged to perform a transaction using a coin, the apparatus comprising:~~

~~means, optionally a processor, for storing a first set of information relating to the transaction in relation to the coin;~~

~~means, optionally a processor, for determining an ecosystem in which the transaction has taken place; and~~

~~means, optionally a processor, for storing a second set of information relating to the transaction in a datastore separate to the coin, wherein the datastore in which the second set of information is stored depends on the ecosystem in which the transaction has taken place.~~

66. ~~The apparatus of claim 68 or 69, wherein the means for storing comprises a memory and/or wherein the means for storing comprises a processor, optionally wherein at least one of the first set of information and the second set of information is stored remotely from the device.~~

67. ~~An apparatus arranged to perform a transaction using a coin, the apparatus comprising:~~

~~means, optionally a processor, for determining a state of fungibility of the coin; and~~

~~means, optionally a processor, for completing the transaction in dependence on the state of fungibility.~~

68. ~~An apparatus for providing and/or storing a computer implemented coin, wherein the coin comprises provenance data and the provenance data comprises:~~

~~a first set of data that is determined at the time of the transaction and is thereafter immutable; and~~

~~a second set of data that is alterable following the transaction.~~

69. ~~An apparatus for altering the state of fungibility of a computer implemented coin, wherein the coin comprises an indication of a state of fungibility.~~

70. ~~A system comprising the apparatus of claim 65 or any of claims 67 to 73.~~

71.20. A system for performing a transaction using a coin associated with a blockchain, the system comprising:

~~the blockchain associated with the coin a first datastore for storing a first set of information relating to the transaction in relation to the coin; and~~

~~a second datastore separate to the coin for storing a second set of information relating to the transaction in a datastore separate to the coin.~~

72. ~~A system for performing a transaction using a coin, the system comprising:~~

~~a first datastore for storing a first set of information relating to the transaction in relation to the coin;~~

~~an apparatus for determining an ecosystem in which the transaction has taken place; and~~

~~a second datastore for storing a second set of information relating to the transaction, the second datastore being separate to the first datastore, wherein the determination of the second datastore depends on the ecosystem in which the transaction has taken place.~~