CLAIMS

1. A computer implemented method of decomposing a blockchain comprising transactions in digital currency for analysis and display, the method comprising:

determining a range of blocks in the blockchain;

unpacking each block in the range of blocks in the blockchain into a corresponding table comprising one or more rows of input and output data for each of the transactions stored in the block; and

for the range of blocks in the blockchain, aggregating entity information and aggregating transaction information into a block analysis table.

2. The method of claim 1, further comprising after unpacking each block, merging the tables for each block into a merged data frame.

3. The method of claim 2, wherein aggregating entity information and aggregating transaction information into the block analysis table comprises extracting aggregated entity information and aggregated transaction information for the aggregated entity information from the merged data frame using one or more scripts or functions.

4. The method of claim 1 wherein the transaction information is stored in a tree-like structure and wherein the step of unpacking each block in the range of blocks comprises for each block in the range of blocks:

unpacking the block into a table comprising one or more rows of input and output data for each of the transactions stored in the block; and

aggregating the one or more rows of input and output data to form an aggregated row of transaction data for each of the transactions.

5. The method of claim 4 wherein the step of unpacking the block comprises:

unpacking the block into a plurality of stages; and

performing outer joins between the plurality of stages to obtain a table comprising the one or more rows of input and output data for each of the transactions.

6. The method of claim 5 wherein the step of performing outer joins comprises:

using SCHEMA.DATASET.btc_block_stg table as a primary table; and

performing outer joins to the stages in the plurality of stages to extract unnested information from the block into the table.

7. The method of claim 4 wherein the block is stored in NoSQL format.

8. The method of claim 4 wherein the step of aggregating the one or more rows of input and output data comprises combining the one or more rows into a single row by taking a statistical aggregation of values of each field in the respective rows of input and output data.

9. The method of claim 1 further comprising a step of labelling some or each of the transactions as fraudulent, wherein the step of labelling is based in part on whether an addressee listed in the transaction information is known to be involved in fraudulent activity.

10. The method of claim 1 wherein the digital currency is based on Unspent Transaction Output (UTxO) design.

11. The method of claim 1 further comprising analysing digital currency activity using the block analysis table.

12. The method of claim 1 further comprising displaying digital currency activity using the block analysis table.

13. A node in a computing network for decomposing a blockchain comprising transactions in digital currency for analysis and display, wherein the node is configured to:

determine a range of blocks in the blockchain;

unpack each block in the range of blocks in the blockchain into a table comprising one or more rows of input and output data for each of the transactions stored in the block; and

for the range of blocks in the blockchain, aggregate entity information and aggregate transaction information into a block analysis table.

14. A non-transitory computer readable medium having computer readable code embodied therein, the computer readable code being configured such that, on execution by a suitable computer or processor, the computer or processor is caused to perform operations for decomposing a blockchain comprising transactions in digital currency for analysis and display, the operations comprising:

determining a range of blocks in the blockchain;

unpacking each block in the range of blocks in the blockchain into a table comprising one or more rows of input and output data for each of the transactions stored in the block; and

for the range of blocks in the blockchain, aggregating entity information and aggregating transaction information into a block analysis table.

15. The node of claim 13, wherein:

the node is further configured to, after unpacking each block, merge the tables for each block into a merged data frame; and

the aggregating of the entity information and the aggregating of the transaction information into the block analysis table comprises extracting aggregated entity information and aggregated transaction information for the aggregated entity information from the merged data frame using one or more scripts or functions.

16. The node of claim 13, wherein:

the transaction information is stored in a tree-like structure; and

each block is unpacked by:

unpacking the block into a table comprising one or more rows of input and output data for each of the transactions stored in the block; and

aggregating the one or more rows of input and output data to form an aggregated row of transaction data for each transaction.

17. The node of claim 16, wherein the aggregating of the one or more rows of input and output data comprises combining the one or more rows into a single row by taking a statistical aggregation of values of each field in the respective rows of input and output data.

18. The computer readable medium of claim 14, wherein:

the operations further comprise, after unpacking each block, merging the tables for each block into a merged data frame; and

the aggregating of the entity information and the aggregating of the transaction information into the block analysis table comprises extracting aggregated entity information and aggregated transaction information for the aggregated entity information from the merged data frame using one or more scripts or functions.

19. The computer readable medium of claim 14, wherein:

the transaction information is stored in a tree-like structure; and

each block is unpacked by:

unpacking the block into a table comprising one or more rows of input and output data for each of the transactions stored in the block; and

aggregating the one or more rows of input and output data to form an aggregated row of transaction data for each of the transactions.

20. The computer readable medium of claim 19, wherein the aggregating of the one or more rows of input and output data comprises combining the one or more rows into a single row by taking a statistical aggregation of values of each field in the respective rows of input and output data.