CLAIMS

What is claimed is:

1. A method for conducting and recording insurance claims transactions using blockchain, comprising the steps of:

receiving a first verification element from a claimant at an authenticated provider device of a provider;

verifying an eligibility of said claimant at a financer and an eligibility of said provider at a provider network, according to said first verification element and said provider device;

receiving a second verification element from said claimant at said provider device, said second verification element being distinct from said first verification element;

conducting said insurance claim transaction by triggering a transaction chaincode at said provider device according to said second verification element;

recording an entry of said insurance claim transaction on a blockchain ledger of a blockchain system;

wherein a hashed value of an irreversible hash of said first verification element and said second verification element is stored in a global ledger of said blockchain system, and said entry of insurance claim transaction is stored in a private ledger of said blockchain system only accessible by said financer and said provider network; wherein a proof of claim of said insurance claim transaction is collected from said provider device at the time said

transaction chaincode is triggered.

2. The method for conducting and recording insurance claim transactions using blockchain of claim 1, wherein said first verification element and said second verification element comprises a two-dimensional barcode generated by a claimant device authenticated by said financer.

3. The method for conducting and recording insurance claim transactions using blockchain of claim 1, wherein said first verification element and said second verification element comprises an alphanumerical string generated by a claimant device authenticated by said financer.

4. The method for conducting and recording insurance claim transactions using blockchain of claim 1, wherein said first verification element and said second verification element are generated by a claimant device, said claimant device is an NFC-enabled member card, said first verification element and said second verification element comprises a card identifier unique to said member card and an encrypted claimant identifier of said claimant at said financer.

5. The method for conducting and recording insurance claim transactions using blockchain of claim 4, wherein said NFC-enabled member card comprises a manufacturer block which is only readable for preventing cloning of said member card.

6. The method for conducting and recording insurance claim transactions using blockchain of

claim 4, wherein said provider device is an NFC card reader having a unique private key, said NFC card reader encrypts said claimant identifier and said card identifier of said NFC-enabled member card with said private key to obtain an encrypted member data, where said eligibility of said claimant is verified by decrypting said encrypted member data at a provider network backend server connected to the provider device, where said private key is stored on said provider network backend server and is unknown to said provider, as such a successful decryption automatically confirms said eligibility of both said claimant and said provider at the same time.

7. The method for conducting and recording insurance claim transactions using blockchain of claim 6, wherein said encrypted member data is dynamically generated and includes a date or time stamp.

8. The method for conducting and recording insurance claim transactions using blockchain of claim 1, wherein said step of conducting said insurance claim transaction comprises the steps of:

receiving an original second verification element at said provider device;

performing said irreversible hash on said received original second verification element to generate a hashed second verification element;

comparing said hashed second verification element generated in the above step to said hashed value of said second verification element stored in said global ledger;

conducting said insurance claim transaction if said hashed second verification element generated matches said hashed second verification element stored in said global ledger.

9. The method for conducting and recording insurance claim transactions using blockchain of claim 1, further comprising the steps of:

determining a payment arrangement between said claimant and said financer according to said first verification element;

receiving an input of extra claimable items at said provider device;

finalizing a claim amount of said insurance claim transaction according to said payment arrangement and said extra claimable items;

obtaining a claim amount of said insurance claim transaction from said private ledger;

electronically transferring said claim amount from said financer to said provider network, and from said provider network to said provider.

10. The method for conducting and recording insurance claim transactions using blockchain of claim 1, wherein said first verification element and said second verification element expires after receiving by said provider device once.

11. The method for conducting and recording insurance claim transactions using blockchain of claim 1, wherein said blockchain system comprises a first chaincode layer which is global to all peers of said blockchain system, a second chaincode layer only accessible by said financer and said provider network, and a third chaincode layer only accessible by said

financer.

12. The method for conducting and recording insurance claim transactions using blockchain of claim 11, wherein said third chaincode layer communicates with said provider device to confirm said eligibility of said claimant, confirm a necessity to perform said claimable task based on inputs of said provider into said provider device, and confirm a price of said claimable task.

13. The method for conducting and recording insurance claim transactions using blockchain of claim 1, wherein said blockchain system is a Hyperledger Fabric blockchain system.

14. A system for conducting and recording insurance claim transactions using blockchain, comprising:

a blockchain system;

a financer backend server connected to said blockchain system through a financer blockchain application;

a provider network backend server connected to said blockchain system through a provider network blockchain application;

a claimant device connected to said financer backend server;

a provider device connected to said provider network backend server;

wherein said provider device receives a first verification element from said claimant device to verify an eligibility of a claimant at a financer and through claimant device, and to verify

an eligibility of a provider at a provider network though said provider device; said provider device receives a second verification element distinct from said first verification element to conduct an insurance transaction by triggering a transaction chaincode;

wherein said blockchain system comprises a global ledger and a private ledger, an irreversible hashed value of said first verification element and said second verification element is stored in said global ledger, and an entry of said insurance transaction is recorded in said private ledger only accessible by said financer backend server and said provider network backend server; wherein a proof of claim is collected from said provider device at the time said insurance transaction is conducted.

15. The system for conducting and recording insurance claim transactions using blockchain of claim 14, wherein said first verification element and said second verification element comprises a two-dimensional barcode generated by said claimant device authenticated by said financer.

16. The system for conducting and recording insurance claim transactions using blockchain of claim 14, wherein said first verification element and said second verification element comprises an alphanumerical string generated by a claimant device authenticated by said financer.

17. The system for conducting and recording insurance claim transactions using blockchain of claim 14, wherein said claimant device is an NFC-enabled member card, said first

verification element and said second verification element comprises a card identifier unique to said member card and an encrypted claimant identifier of said claimant at said financer.

18. The system for conducting and recording insurance claim transactions using blockchain of claim 17, wherein said NFC-enabled member card comprises a manufacturer block which is only readable for preventing cloning of said member card.

19. The system for conducting and recording insurance claim transactions using blockchain of claim 17, wherein said provider device is an NFC card reader having a unique private key, said NFC card reader encrypts said claimant identifier and said card identifier of said NFC-enabled member card with said private key to obtain an encrypted member data, where said eligibility of said claimant is verified by decrypting said encrypted member data at said provider network backend server, where said private key is stored on said provider network backend server and is unknown to said provider, as such a successful decryption automatically confirms said eligibility of both said claimant and said provider at the same time.

20. The system for conducting and recording insurance claim transactions using blockchain of claim 19, wherein said encrypted member data is dynamically generated and includes a date or time stamp.