

CLAIMS

What is claimed is:

1. A blockchain-based loan approval method, applied to a blockchain network storing credit authentication information of a loan manager, wherein the method comprises:

receiving a loan approval request sent by the loan manager;

obtaining identity authentication information of the loan manager from the loan approval request;

obtaining the credit authentication information associated with the identity authentication information from the blockchain network; and

generating loan approval information based on the credit authentication information, wherein the loan approval information includes a loan approval result for the loan approval request;

wherein the obtaining identity authentication information of the loan manager from the loan approval request comprises:

obtaining a public key and a digital signature from the loan approval request, wherein the digital signature is obtained through encryption by using a private key corresponding to the public key;

verifying whether the digital signature is valid by using the public key; and

obtaining the identity authentication information of the loan manager from the loan approval request when the digital signature is verified to be valid.

2. The blockchain-based loan approval method according to claim 1, wherein after the generating loan approval information based on the credit authentication information, the method further comprises:

updating the credit authentication information of the loan manager based on the loan approval information; and

associating updated credit authentication information with the identity authentication information of the loan manager and broadcasting the updated credit authentication information to the blockchain network.

3. The blockchain-based loan approval method according to claim 2, wherein the associating updated credit authentication information with the identity authentication

information of the loan manager and broadcasting the updated credit authentication information to the blockchain network comprises:

associating the updated credit authentication information with the identity authentication information of the loan manager and saving the updated credit authentication information in a block body of a current block;

when a preset condition is satisfied, obtaining block header data of a previous block in the blockchain network, and obtaining a parent block hash value through calculation based on the block header data;

calculating a block body hash value of the current block based on data stored in the block body of the current block;

saving the parent block hash value, the block body hash value and a time stamp of current time in a block header of the current block; and

broadcasting the current block to the blockchain network.

4. The blockchain-based loan approval method according to claim 1, wherein the obtaining the credit authentication information associated with the identity authentication information from the blockchain network comprises:

obtaining node information of a preset quantity of blockchain nodes from the blockchain network;

obtaining, based on the node information, the credit authentication information associated with the identity authentication information from each of the blockchain nodes;

determining whether the credit authentication information obtained from each of the blockchain nodes is consistent; and

when the credit authentication information is consistent, using the credit authentication information as valid credit authentication information of the loan manager.

5. The blockchain-based loan approval method according to claim 1, wherein after the obtaining identity authentication information of the loan manager from the loan approval request, the method further comprises:

obtaining a target image based on the identity authentication information, wherein the target image is a real facial image of the loan manager;

collecting a current facial image of the loan manager, and normalizing the current facial image based on the target image to obtain a standard facial image;

inputting the standard facial image and the target image into a pre-trained convolutional neural network-based image comparison model to obtain image similarity; and

when the image similarity is greater than a preset threshold, determining that the identity authentication information of the loan manager is true.

6. The blockchain-based loan approval method according to claim 1, wherein after the generating loan approval information based on the credit authentication information, the method further comprises:

receiving an appeal request sent by the loan manager for the loan approval result;

generating an appeal result based on the appeal request and updating the credit authentication information of the loan manager based on the appeal result; and

associating updated credit authentication information with the identity authentication information of the loan manager and broadcasting the updated credit authentication information to the blockchain network.

7. A blockchain-based loan approval apparatus, comprising:

a receiving module, configured to receive a loan approval request sent by a loan manager;

a first obtaining module, configured to obtain identity authentication information of the loan manager from the loan approval request;

a second obtaining module, configured to obtain credit authentication information associated with the identity authentication information from a blockchain network; and

an approval module, configured to generate loan approval information based on the credit authentication information, wherein the loan approval information comprises a loan approval result for the loan approval request;

wherein the first obtaining module includes:

a first obtaining unit, configured to obtain a public key and a digital signature from the loan approval request, where the digital signature is obtained through encryption by using a private key corresponding to the public key;

a verification unit, configured to verify whether the digital signature is valid by using the public key; and

a second obtaining unit, configured to obtain the identity authentication information of the loan manager from the loan approval request when the digital signature is verified to be valid.

8. A non-volatile readable storage medium on which computer-readable instructions are stored, wherein when the computer-readable instructions are executed by a processor, the processor is configured to:

receive a loan approval request sent by a loan manager;

obtain identity authentication information of the loan manager from the loan approval request;

obtain credit authentication information associated with the identity authentication information from a blockchain network; and

generate loan approval information based on the credit authentication information, wherein the loan approval information comprises a loan approval result for the loan approval request;

wherein when the computer-readable instructions are executed by the processor, the processor is configured to obtain the identity authentication information of the loan manager from the loan approval request by performing the following steps:

obtaining a public key and a digital signature from the loan approval request, wherein the digital signature is obtained through encryption by using a private key corresponding to the public key;

verifying whether the digital signature is valid by using the public key; and

obtaining the identity authentication information of the loan manager from the loan approval request when the digital signature is verified to be valid.

9. The non-volatile readable storage medium according to claim 8, wherein when the computer-readable instructions are executed by the processor, the processor is further configured to:

update the credit authentication information of the loan manager based on the loan approval information; and

associating updated credit authentication information with the identity authentication information of the loan manager and broadcasting the updated credit authentication information to the blockchain network.

10. The non-volatile readable storage medium according to claim 9, wherein when the computer-readable instructions are executed by the processor, the processor is configured to associate the updated credit authentication information with the identity authentication information of the loan manager and broadcast the updated credit authentication information to the blockchain network by performing the following steps:

associating the updated credit authentication information with the identity authentication information of the loan manager and saving the updated credit authentication information in a block body of a current block;

when a preset condition is satisfied, obtaining block header data of a previous block in the blockchain network, and obtaining a parent block hash value through calculation based on the block header data;

calculating a block body hash value of the current block based on data stored in the block body of the current block;

saving the parent block hash value, the block body hash value and a time stamp of current time in a block header of the current block; and

broadcasting the current block to the blockchain network.

11. The non-volatile readable storage medium according to claim 8, wherein when the computer-readable instructions are executed by the processor, the processor is configured to obtain the credit authentication information associated with the identity authentication information from the blockchain network by performing the following steps:

obtaining node information of a preset quantity of blockchain nodes from the blockchain network;

obtaining, based on the node information, the credit authentication information associated with the identity authentication information from each of the blockchain nodes;

determining whether the credit authentication information obtained from each of the blockchain nodes is consistent; and

when the credit authentication information is consistent, using the credit authentication

information as valid credit authentication information of the loan manager.

12. The non-volatile readable storage medium according to claim 8, wherein when the computer-readable instructions are executed by the processor, the processor is further configured to:

obtain a target image based on the identity authentication information, wherein the target image is a real facial image of the loan manager;

collect a current facial image of the loan manager, and normalize the current facial image based on the target image to obtain a standard facial image;

inputting the standard facial image and the target image into a pre-trained convolutional neural network-based image comparison model to obtain image similarity; and

when the image similarity is greater than a preset threshold, determining that the identity authentication information of the loan manager is true.

13. The non-volatile readable storage medium according to claim 8, wherein when the computer-readable instructions are executed by the processor, the processor is further configured to:

receive an appeal request sent by the loan manager for the loan approval result;

generate an appeal result based on the appeal request and update the credit authentication information of the loan manager based on the appeal result; and

associating updated credit authentication information with the identity authentication information of the loan manager and broadcasting the updated credit authentication information to the blockchain network.

14. An electronic device, comprising:

a memory, configured to store executable instructions; and

a processor, configured to execute the executable instructions stored in the memory, wherein when executing the executable instructions, the processor is configured to perform the following steps:

receiving a loan approval request sent by a loan manager;

obtaining identity authentication information of the loan manager from the loan approval request;

obtaining the credit authentication information associated with the identity authentication information from a blockchain network; and

generating loan approval information based on the credit authentication information, wherein the loan approval information comprises a loan approval result for the loan approval request;

wherein when executing the executable instructions, the processor is configured to obtain the identity authentication information of the loan manager from the loan approval request by performing the following steps:

obtaining a public key and a digital signature from the loan approval request, wherein the digital signature is obtained through encryption by using a private key corresponding to the public key;

verifying whether the digital signature is valid by using the public key; and

obtaining the identity authentication information of the loan manager from the loan approval request when the digital signature is verified to be valid.

15. The electronic device according to claim 14, wherein when executing the executable instructions, the processor is configured to, after generating the loan approval information based on the credit authentication information, further perform the following steps:

updating the credit authentication information of the loan manager based on the loan approval information; and

associating updated credit authentication information with the identity authentication information of the loan manager and broadcasting the updated credit authentication information to the blockchain network.

16. The electronic device according to claim 15, wherein when executing the executable instructions, the processor is configured to associate the updated credit authentication information with the identity authentication information of the loan manager and broadcast the updated credit authentication information to the blockchain network by performing the following steps:

associating the updated credit authentication information with the identity authentication information of the loan manager and saving the updated credit authentication information in a block body of a current block;

when a preset condition is satisfied, obtaining block header data of a previous block in the blockchain network, and obtaining a parent block hash value through calculation based on the block header data;

calculating a block body hash value of the current block based on data stored in the block body of the current block;

saving the parent block hash value, the block body hash value and a time stamp of current time in a block header of the current block; and

broadcasting the current block to the blockchain network.

17. The electronic device according to claim 14, wherein when executing the executable instructions, the processor is configured to obtain the credit authentication information associated with the identity authentication information from the blockchain network by performing the following steps:

obtaining node information of a preset quantity of blockchain nodes from the blockchain network;

obtaining, based on the node information, the credit authentication information associated with the identity authentication information from each of the blockchain nodes;

determining whether the credit authentication information obtained from each of the blockchain nodes is consistent; and

when the credit authentication information is consistent, using the credit authentication information as valid credit authentication information of the loan manager.