AGENCY PAYMENT METHOD AND APPARATUS, AND ELECTRONIC DEVICE

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a National Stage of International Application No. PCT/CN2016/079732, filed April 20, 2016, which claims priority to Chinese Patent Application No.201510276466.9, filed May 27, 2015, both of which are incorporated herein by reference in their entireties.

TECHNICAL FIELD

The present invention relates to the technical field of financial data processing, and in particular to an agency payment method, apparatus, and an electronic device.

BACKGROUND ART

Currently, it has been electronic payment times, and online or mobile payments are increasingly popular. But this is undoubtedly a problem to people who are unfamiliar with or inconvenient to the operations on computers and mobile phones.

Based on the problem, measures for the agency payment are proposed at present. In accordance with the prior art, the agency operation and payment can only be achieved in the following ways:

1. The consignor notifies the agent of the user name and the password of the account. In this way, the account of the consignor faces a very high security risk.

2. The consignor transfers money or pays cashes to the agent, and then the agent pays using his own account. Such operation procedure is very troublesome.

SUMMARY OF THE INVENTION

In order to solve the problem of the prior art, the present invention provides an agency payment method, apparatus and an electronic device. The consignor entrusts his account to any other person for an agency payment operation. In each payment transaction of the account, the money will not be transferred from the account of the consignor until an acknowledgement is made by the consignor, and the payment operation is invalid if no acknowledgement is made within a specified period, thus the security is high.

In order to achieve the above objectives, the present invention provides an agency payment method, comprising:

acquiring an agency payment request instruction after the verification succeeds, and parsing the agency payment request instruction to acquire control information thereof; wherein the agency payment request instruction is generated according to an agent's operation of performing a payment process through an account of a consignor;

inquiring content information of the agency payment request instruction according to the control information of the agency payment request instruction, so as to acquire a login account and a transaction account, and performing a verification with an agency relation between the login account and the transaction account; generating payment acknowledgement information after the verification succeeds; acquiring response information according to the payment acknowledgement information and performing a verification of the response information; wherein the transaction account is an account of the consignor, and the response information is generated according to the consignor's acknowledgement of the agent's operation of performing the payment process;

determining whether to complete the payment according to a result of the verification of the response information.

Preferably, the method further comprises:

acquiring an account agency request instruction, and parsing the account agency request instruction to acquire control information thereof;

inquiring content information of the account agency request instruction according to the control information of the account agency request instruction, so as to acquire a login account and a transaction account, and performing a verification of the login account and the transaction account;

establishing an agency relation between the login account and the transaction account, after the verification succeeds.

Preferably, the method further comprises:

acquiring a transaction verification request instruction before the agency payment request instruction is acquired, and parsing the transaction verification request instruction to acquire control information thereof;

inquiring content information of the transaction verification request instruction according to the control information of the transaction verification request instruction, acquiring a login account, and performing a verification of validity of the login account, wherein the agency payment request instruction is allowed to be acquired only when the verification succeeds.

Preferably, the method further comprises:

acquiring an account agency cancelling instruction, and parsing the account agency cancelling instruction to acquire control information thereof;

inquiring content information of the account agency cancelling instruction according to the control information of the account agency cancelling instruction, acquiring a transaction account, and performing a verification of validity of the transaction account;

cancelling an agency relation between the login account and the transaction account, after the verification succeeds.

Preferably, the method further comprises:

storing account information, the agency relation, operation logs and verification information.

In order to achieve the above objectives, the present invention further provides an agency payment apparatus, comprising:

a first instruction parsing unit used to acquire an agency payment request instruction, and parse the agency payment request instruction to acquire control information thereof; wherein the agency payment request instruction is generated according to an agent's operation of performing a payment process through an account of a consignor;

an agency payment behavior verification unit used to inquire content information of the agency payment request instruction according to the control information of the agency payment request instruction, so as to acquire a login account and a transaction account, and perform a verification of an agency relation between the login account and the transaction account; generate payment acknowledgement information after the verification succeeds; acquire response information according to the payment acknowledgement information and perform a verification of the response information; wherein the transaction account is an account of the consignor, and the response information is generated according to the consignor's acknowledgement of the agent's operation of performing the payment process;

a payment unit used to determine whether to complete a payment according to a result of the verification of the response information.

Preferably, the apparatus further comprises:

a second instruction parsing unit used to acquire an account agency request instruction, and parse the account agency request instruction to acquire control information thereof;

an agency relation verification unit used to inquire content information of the account agency request instruction according to the control information of the account agency request instruction, so as to acquire a login account and a transaction account, and perform a

verification of the login account and the transaction account;

an agency relation establishing unit used to establish an agency relation between the login account and the transaction account, after the verification succeeds.

Preferably, the apparatus further comprises:

a third instruction parsing unit used to acquire a transaction verification request instruction before the agency payment request instruction is acquired, and parse the transaction verification request instruction to acquire control information thereof;

a login account verification unit used to inquire content information of the transaction verification request instruction according to the control information of the transaction verification request instruction, acquire a login account, and perform a verification of validity of the login account; wherein the agency payment request instruction is allowed to be acquired only when the verification succeeds.

Preferably, the apparatus further comprises:

a fourth instruction parsing unit used to acquire an account agency cancelling instruction, and parse the account agency cancelling instruction to acquire control information thereof;

a transaction account verification unit used to inquire content information of the account agency cancelling instruction according to the control information of the account agency cancelling instruction, acquire a transaction account, and perform a verification of validity of the transaction account;

an agency relation cancelling unit used to cancel the agency relation between the login account and the transaction account, after the verification succeeds.

Preferably, the apparatus further comprises:

a storage unit used to store account information, the agency relation, operation logs and verification information.

In order to achieve the above objectives, the present invention further provides an electronic device, comprising an agency payment apparatus aforementioned.

As compared with the existed technical solution, this technical solution separately designs the operation authority and the payment authority of the account, and has the following characteristics:

1. The agent only sees an account identification (a series of letters or numbers) of the consignor, rather than other information (e.g., password, ID number, card number, etc.) of the consignor.

2. The agent performs the complex process behavior of the payment operation on behalf of the consignor.

3. Whether the substitute behavior of the agent is finally valid, i.e., whether the payment operation can be completed, is determined by the consignor.

4. The agency relation established between the accounts will not be valid unless it is acknowledged by the consignor, and the consignor can unilaterally and autonomously cancel the agency relation between the accounts.

This technical solution actually only lets other person to acquire the account of the agent, so as to achieve the effect that other person can initiate a payment transaction on behalf of the agent without logging in the account of the agent, while the transaction will not be valid unless it is acknowledged by the consignor, which subtly solves the problem of payment of people who are not good at operating computers or mobile phones.

BRIEF DESCRIPTION OF THE DRAWINGS

In order to more clearly explain the technical solutions in the embodiments of the present invention or the prior art, the drawings to be used in the descriptions of the embodiments or the prior art will be briefly introduced as follows. Obviously, the drawings used in the following descriptions just illustrate some embodiments of the present invention, and a person skilled in the art can further obtain other drawings from these drawings without paying any creative effort.

Fig. 1 illustrates an application scenario of an embodiment of the present invention;

Fig. 2 illustrates a first structural diagram of an agency payment apparatus provided by an embodiment of the present invention;

Fig. 3 illustrates a second structural diagram of an agency payment apparatus provided by an embodiment of the present invention;

Fig. 4 illustrates a third structural diagram of an agency payment apparatus provided by an embodiment of the present invention;

Fig. 5 illustrates a fourth structural diagram of an agency payment apparatus provided by an embodiment of the present invention;

Fig. 6 illustrates a first flow diagram of an agency payment method provided by an embodiment of the present invention;

Fig. 7 illustrates a flow diagram of establishing an agency relation in an agency payment method provided by an embodiment of the present invention;

Fig. 8 illustrates a second flow diagram of an agency payment method provided by an embodiment of the present invention;

Fig. 9 illustrates a flow diagram of cancelling an agency relation in an agency payment

method provided by an embodiment of the present invention;

Fig. 10 illustrates a block diagram of an electronic device provided by an embodiment of the present invention;

Fig. 11 illustrates a flow diagram of setting an agency relation in a specific embodiment;

Fig. 12 illustrates a flow diagram of an agency payment in a specific embodiment.

DETAILED DESCRIPTION OF THE EMBODIMENTS

The technical solutions in the embodiments of the present invention will be clearly and completely described as follows in conjunction with the drawings of the embodiments of the present invention. Obviously, the embodiments as described are just a part, rather than all, of the embodiments of the present invention. Based on the embodiments of the present invention, all other embodiments obtained by a person skilled in the art without paying any creative effort shall fall within the protection scope of the present invention.

A person skilled in the art knows that the embodiments of the present invention may be implemented as a system, an apparatus, a device, a method or a computer program product. Thus the present invention can be specifically implemented as complete hardware, complete software (including firmware, resident software, microcode, etc.), or a combination of hardware and software.

According to the embodiments of the present invention, there proposed an agency payment method and apparatus, and an electronic device.

Herein it shall be appreciated that among the concerned terms:

1. Consignor: in this technical solution, a person who entrusts an account operation authority to any other person to perform a payment process behavior in place of himself. In order to ensure the benefit of the consignor, the payment process behavior is valid only after being confirmed by the consignor in a manner such as inputting a payment password.

2. Agent: in this technical solution, a person who logs in his own account, and performs a payment operation behavior for the consignor through the account of the consignor according to an instruction of the consignor. But the payment operation behavior is just a payment process behavior and does not include the final payment behavior.

3. Transaction account: an account for funding the payment. In this technical solution, when the agent performs an agency payment, the transaction account is the bank account of the consignor, and when the agent pays for his own transaction behavior, the transaction account is the bank account of the agent.

4. Login account: a token that controls a central server to perform a payment process. When the agent pays for his own transaction behavior, the login account is equivalent to the transaction account, and when the agent performs an agency payment, the login account is not equivalent to the transaction account.

In addition, any element number in the drawings is just used for illustration rather than restriction, and any name is only used for distinction rather than restriction.

Next, the principle and spirit of the present invention are elaborated in details as follows with reference to several representative embodiments of the present invention.

Overview of the Invention

Generally, the principle of the existing electronic payment is to establish one-to-one correspondences between users logging in a smart terminal and those users' bank accounts, so that the users perform corresponding operations according to tips on the page of the smart terminal to complete a transaction payment request.

But this is undoubtedly a problem to people who are unfamiliar with or inconvenient to the operations on computers and mobile phones.

For this reason, the present invention provides an agency payment mechanism, which separates the operation authority and the payment authority from each other, and the agent just needs to log in the account of himself to operate the account of the consignor. The central server transmits the operation behavior of the agent to the consignor through a notification, and the consignor returns an acknowledgement to the central server according to the notification. If the central server acquires a positive acknowledgement, the payment is completed according to the operation behavior of the agent. If the central server acquires a negative acknowledgement, the payment behavior performed by the agent is invalid.

Herein the central server means a system and/or an apparatus having a function of payment account management, and it is suitable not only to the bank card processing, but also to any virtual account.

After the basic principle of the present invention is introduced, various nonrestrictive embodiments of the present invention are described as follows.

Overview of the Application Scenario

Firstly referring to Fig. 1, a server 100 may be a server, etc., while either an agent mobile terminal 200 or a consignor mobile terminal 300 may be a mobile phone or a tablet computer, etc. The agent mobile terminal 200, the consignor mobile terminal 300 and the server 100 may be in communication connections with each other for example via the mobile internet, etc.

Through the agency payment mechanism of this technical solution, a corresponding payment agency relation is established between the consignor and the agent, and the agency relation is stored in the central server. When the consignor purchases commodities online, he needs to make a payment after finishing the purchase operation. Through the consignor mobile terminal 300, the consignor notifies the agent to perform a payment agency operation. In consideration of the security of the subsequent agency payment behavior, it is verified whether the login behavior is made by the agent himself before the agency payment. The process of the verification is that: after receiving the notification from the consignor, the agent logs in his own account through the agent mobile terminal 200; the agent mobile terminal 200 generates a transaction verification request according to the login behavior and transmits it to the server 100; the server 100 performs a series of verification operations according to the transaction verification request, to verify whether the login behavior is made by the agent himself and prevent any malicious login by other persons. The server 100 transmits a result of the verification to the agent mobile terminal 200. If the verification succeeds, the agent performs all operation behaviors, except a final payment behavior, for the consignor at the mobile terminal 200, while the mobile terminal 200 generates an agency payment request according to those operation behaviors and transmits it to the server 100. The server 100 performs a series of verification operations on the agency payment again, mainly for the purpose of judging whether the payment behavior is an agency payment behavior, and if so, payment acknowledgement information is generated according to the operation behavior of the agent, and transmitted to the consignor mobile terminal 300. After receiving the payment acknowledgement information, the consignor checks whether the information is accurate. The consignor generates response information at the consignor mobile terminal 300 according to the payment acknowledgement information, and transmits it to the server 100. The server 100 judges whether the response information is positive, and if so, the payment is completed.

If the response information is negative, the payment cannot be completed even if the agent performs corresponding operation.

Example apparatus

Next, in conjunction with the application scenario of Fig. 1, the agency payment apparatus of the example embodiment of the present invention will be introduced with reference to Figs. 2 to 4, respectively.

To be noted, the above application scenario is just illustrated for the convenience of understanding the spirit and principle of the present invention, and the embodiment of the present invention is not limited thereto. Rather, the embodiment of the present invention can

be applied to any suitable scenario.

Referring to Fig. 2, which is a first structural diagram of an agency payment apparatus provided by an embodiment of the present invention, the agency payment apparatus comprises: a first instruction parsing unit 201, an agency payment behavior verification unit 202 and a payment unit 203, wherein,

the first instruction parsing unit 201 is used to acquire an agency payment request instruction, and parse the agency payment request instruction to acquire control information thereof; wherein the agency payment request instruction is generated according to an agent's operation of performing a payment process through an account of a consignor;

the agency payment behavior verification unit 202 is used to inquire content information of the agency payment request instruction according to the control information of the agency payment request instruction, so as to acquire a login account and a transaction account, and perform a verification of an agency relation between the login account and the transaction account; generate payment acknowledgement information after the verification succeeds; acquire response information according to the payment acknowledgement information and perform a verification of the response information; wherein the transaction account is an account of the consignor, the login account is an account of the agent, and the response information is generated according to the consignor's acknowledgement of the agent's operation of performing the payment process;

the payment unit 203 is used to determine whether to complete a payment according to a result of the verification of the response information.

In this embodiment, the agency payment behavior verification unit enables the consignor to acknowledge the legality of the operation behavior of the payment process of the agent. The payment behavior of the agent will not be valid until it is acknowledged by the consignor. The central server completes the payment according to the payment behavior of the agent.

Further, an embodiment of the present invention provides a second structural diagram of an agency payment apparatus. As illustrated in Fig. 3, on the basis of Fig. 2, the agency payment apparatus further comprises:

a second instruction parsing unit 204 used to acquire an account agency request instruction, and parse the account agency request instruction to acquire control information thereof;

an agency relation verification unit 205 used to inquire content information of the account agency request instruction according to the control information of the account agency request instruction, so as to acquire a login account and a transaction account, and perform a

verification of the login account and the transaction account;

an agency relation establishing unit 206 used to establish an agency relation between the login account and the transaction account, after the verification succeeds.

In this embodiment, before establishing the above agency relation, the agency relation verification unit 205 checks whether any agency relation has been established between the login account and the transaction account, and the legalities of the two accounts.

Further, an embodiment of the present invention provides a third structural diagram of an agency payment apparatus. As illustrated in Fig. 4, on the basis of Fig. 3, the agency payment apparatus further comprises:

a third instruction parsing unit 207 used to acquire a transaction verification request instruction before the agency payment request instruction is acquired, and parse the transaction verification request instruction to acquire control information thereof;

a login account verification unit 208 used to inquire content information of the transaction verification request instruction according to the control information of the transaction verification request instruction, acquire a login account, and perform a verification of validity of the login account; wherein the agency payment request instruction is allowed to be acquired only when the verification succeeds.

Before the agency payment, it is verified whether the login behavior is made by the agent himself to prevent any malicious login by other persons, which lays a foundation for the security of the following agency payment behavior.

Further, an embodiment of the present invention provides a third structural diagram of an agency payment apparatus. As illustrated in Fig. 5, on the basis of Fig. 4, the agency payment apparatus further comprises:

a fourth instruction parsing unit 209 used to acquire an account agency cancelling instruction, and parse the account agency cancelling instruction to acquire control information thereof;

a transaction account verification unit 210 used to inquire content information of the account agency cancelling instruction according to the control information of the account agency cancelling instruction, acquire a transaction account, and perform a verification of validity of the transaction account;

an agency relation cancelling unit 211 used to cancel the agency relation between the login account and the transaction account, after the verification succeeds.

In this embodiment, when the consignor cancels the agency relation, the transaction account verification unit 210 verifies whether such an operation is performed by the

consignor himself rather than being malicious, while ensuring the benefits between the consignor and the agent.

Based on Figs. 2 to 5, the agency payment apparatus further comprises a storage unit that stores account information, agency relations, operation logs, and verification information.

As can be seen from Figs. 2 to 5, an external payment application can call the agency payment apparatus through a TCP communication or an API function. After parsing an operation instruction, the agency payment apparatus calls corresponding internal service procedure, and finally returns to a processing result.

As can be seen from Figs. 2 to 5, the agency payment apparatus is composed of five parts, i.e., a parser, a service area, a verification area and an instant messaging interface.

The parser receives an external application request instruction, parses the instruction, and calls a service corresponding to the service area according to an instruction type. The instruction is composed of an instruction head and an instruction body. The instruction head comprises a version number, an instruction length and a communication mode. The instruction body comprises control information and content information. The control information is composed of an instruction type, an agency marker, and an answerback code. The content information is composed of a system tracking number, an operation date, operation time, a login account, a transaction account, a verification code, invalid time, and an order content, please see Table 1.

Each field in the instruction has a fixed length, thus the application service acquires the content of each field in the instruction through a memory structural body mapping.

Table 1

Instruction head	Version number	
	Instruction length	
	Communication mode	
Instruction body	Control information	Instruction type
		Agency marker
		Answerback code
	Content information	System tracking number
		Operation date
		Operation time
		Login account
		Transaction account
		Verification code
		Invalid time
		Order content

An instruction head with a fixed length is read, from which a version number, an instruction length and a communication mode are acquired successively and all used for a verification of the legality of the instruction. If the verification succeeds, it continues reading the content of the instruction body for a processing, and if the verification fails, an answerback instruction is assembled and returned to the caller. The instruction type and the answerback code shall be filled in the answerback instruction, and other field information is consistent with the request instruction.

The control information of the instruction body is read; the content information of the instruction is inquired according to two pieces of field information, i.e., the instruction type and the agency marker; a verification of the content information is performed; and an agency payment service is called.

The service area provides all service functions for the account management, including registering a login account, setting an account agency relation, a service of account transaction processing, a service of account transaction agency, and recording operation logs. Each service is an encapsulated function set, and capable of processing one or more instruction types.

The verification area provides a security verification function to the account operation, including an ordinary transaction verification, a payment verification for an agency operation, a verification abnormity processing, etc. The verification function does not separately provide any service to the external, and can only be internally called by the service of the service area.

The storage unit stores the user’s account information, an agency relation between the accounts, and logs of each operation.

As can be seen from Figs. 2 to 5, the instant messaging interface can be connected to a third party communication platform, and transmit information, such as transaction verification code and payment acknowledgement etc., to the user.

Regarding this apparatus, either the transaction account or the login account may be a real bank account or a virtual card.

Regarding this apparatus, after the account agency relation is set, the agent only needs to log in his own account to operate the agency account, and at the same time, can agent a plurality of accounts of other persons, which are independent from each other and not influencing each other. In addition, a security payment verification function is provided for all the account transactions. The payment request initiated by the agent will not be valid until it is acknowledged by the consignor. Thus, not only the agency operation is convenient, but also the security of the account payment is ensured.

In addition, although several units of the agency payment apparatus are mentioned in the above detailed descriptions, the division is not compulsory. In fact, according to the embodiments of the present invention, the features and functions of two or more of those units may be embodied in one unit. Similarly, the feature and function of one of those units can be embodied by being further divided into a plurality of units.

Example method

After the agency payment apparatus of the example embodiments of the present invention are introduced, the agency payment method of the example embodiments of the present invention will be introduced as follows with reference to Fig. 5.

Fig. 6 illustrates a first flow diagram of an agency payment method provided by an embodiment of the present invention, comprising:

step 601): acquiring an agency payment request instruction, and parsing the agency payment request instruction to acquire control information thereof; wherein the agency payment request instruction is generated according to an agent's operation of performing a payment process through an account of a consignor;

step 602): inquiring content information of the agency payment request instruction according to the control information of the agency payment request instruction, so as to acquire a login account and a transaction account, and performing a verification of an agency relation between the login account and the transaction account; generating payment acknowledgement information after the verification succeeds; acquiring response information according to the payment acknowledgement information and performing a verification of the response information; wherein the transaction account is an account of the consignor, the login account is an account of the agent, and the response information is generated according to the consignor's acknowledgement of the agent's operation of performing a payment process;

step 603): determining whether to complete the payment according to a result of the verification of the response information.

In this embodiment, the agency payment must be performed based on the agency relation. The agency relation is established before step 601 is performed, and as illustrated in Fig. 7, a flow of establishing the agency relation comprises:

step 1): acquiring an account agency request instruction, and parsing the account agency request instruction to acquire control information thereof;

step 2): inquiring content information of the account agency request instruction according to the control information of the account agency request instruction, so as to

acquire a login account and a transaction account, and performing a verification of the login account and the transaction account;

step 3): establishing an agency relation between the login account and the transaction account, after the verification succeeds.

In step 2), the verification of the login account and the transaction account comprises: performing a verification of legalities of the login account and the transaction account; transmitting verification information to a consignor client, and the consignor client returns an acknowledgement to a central server to acknowledge an establishment of an agency payment relation. The agency relation cannot be established unless the above verification succeeds.

Fig. 8 illustrates a second flow diagram of an agency payment method provided by an embodiment of the present invention, comprising:

step 801): acquiring a transaction verification request instruction, and parsing the transaction verification request instruction to acquire control information thereof;

step 802): inquiring content information of the transaction verification request instruction according to the control information of the transaction verification request instruction, acquiring a login account, and performing a verification of validity of the login account, wherein the login account is an account of an agent;

step 803): acquiring an agency payment request instruction after the verification succeeds, and parsing the agency payment request instruction to acquire control information thereof; wherein the agency payment request instruction is generated according to an agent's operation of performing a payment process through an account of a consignor;

step 804): inquiring content information of the agency payment request instruction according to the control information of the agency payment request instruction, so as to acquire a login account and a transaction account, and performing a verification of an agency relation between the login account and the transaction account; generating payment acknowledgement information after the verification succeeds; acquiring response information according to the payment acknowledgement information and performing a verification of the response information; wherein the transaction account is the account of the consignor, and the response information is generated according to the consignor's acknowledgement of the agent's operation of performing a payment process;

step 805): determining whether to complete the payment according to a result of the verification of the response information.

As compared with Fig. 5, before the agency payment request instruction is acquired, it is verified in Fig. 8 whether the agency payment request is voluntarily transmitted by the agent

to prevent any malicious action by the agent himself, which lays a foundation for the security of the following agency payment behavior.

In this embodiment, the agency payment relation can be established upon demand, and also can be canceled at any time. As illustrated in Fig. 9, a flow of cancelling an agency relation comprises:

step 11): acquiring an account agency cancelling instruction, and parsing the account agency cancelling instruction to acquire control information thereof;

step 12): inquiring content information of the account agency cancelling instruction according to the control information of the account agency cancelling instruction, acquiring a transaction account, and performing a verification of validity of the transaction account;

step 13): cancelling an agency relation between the login account and the transaction account, after the verification succeeds.

As can be analyzed from Figs. 6 to 9, after the account agency relation takes effect, by logging in his own account, the agent can see an agency account that functions to pay for the transaction during the payment. The agent only sees an account identification (a series of letters or numbers) of other person, rather than other information (e.g., password, ID number, card number, etc.) of the agency account.

It can be seen that in fact, the agent only knows the account of the consignor, so that the agent logs in his own account and performs a payment process on behalf of the consignor through the account of the consignor, while the transaction will not be valid unless it is acknowledged by the consignor. In addition, the consignor can unilaterally and autonomously cancel the agency relation between the accounts.

To be noted, although operations of the method of the present invention are depicted in a specific order in the drawings, it does not require or imply that those operations must be performed in the specific order, or that the expected effect is only achieved by performing all the operations. Additionally or optionally, some steps may be omitted, a plurality of steps may be combined into one step, and/or one step may be divided into a plurality of steps.

Example device

Based on the above example apparatus and method, an embodiment further provides an electronic device as illustrated in Fig. 10, which is used to run an agency payment application program according to various request instructions, comprising:

a memory a used to store a request instruction;

a processor b coupled to the memory, and configured to perform the request instruction stored in the memory, wherein the processor is used by a configured application program to:

acquire an agency payment request instruction, and parse the agency payment request instruction to acquire control information thereof; wherein the agency payment request instruction is generated according to an agent's operation of performing a payment process through an account of a consignor;

inquire content information of the agency payment request instruction according to the control information of the agency payment request instruction, so as to acquire a login account and a transaction account, and perform a verification of an agency relation between the login account and the transaction account; generate payment acknowledgement information after the verification succeeds; acquire response information according to the payment acknowledgement information and perform a verification of the response information; wherein the transaction account is an account of the consignor, the login account is an account of the agent, and the response information is generated according to the consignor's acknowledgement of the agent's operation of performing the payment process;

determine whether to complete the payment according to a result of the verification of the response information.

As to the establishment of the agency relation, the processor b is further used by the configured application program to:

acquire an account agency request instruction, and parse the account agency request instruction to acquire control information thereof;

inquire content information of the account agency request instruction according to the control information of the account agency request instruction, so as to acquire a login account and a transaction account, and perform a verification of the login account and the transaction account;

establish an agency relation between the login account and the transaction account, after the verification succeeds.

Before the agency payment, the login account of the agent is verified to analyze whether the login behavior is made by the agent himself. The processor b is further used by the configured application program to:

acquire a transaction verification request instruction before the agency payment request instruction is acquired, and parse the transaction verification request instruction to acquire control information thereof;

inquire content information of the transaction verification request instruction according to the control information of the transaction verification request instruction, acquire a login account, and perform a verification of validity of the login account; wherein the agency

payment request instruction is allowed to be acquired only when the verification succeeds.

As to the cancellation of the agency relation, the processor b is further used by the configured application program to:

acquire an account agency cancelling instruction, and parse the account agency cancelling instruction to acquire control information thereof;

inquire content information of the account agency cancelling instruction according to the control information of the account agency cancelling instruction, acquire a transaction account, and perform a verification of validity of the transaction account;

cancel the agency relation between the login account and the transaction account, after the verification succeeds.

An embodiment of the present invention further provides a computer readable program, wherein when being executed in an electronic device, the computer readable program enables a computer to perform an agency payment method as illustrated in Figs. 6 to 9 in the electronic device.

An embodiment of the present invention further provides a storage medium that stores a computer readable program, wherein the computer readable program enables a computer to perform an agency payment method as illustrated in Figs. 6 to 9 in the electronic device.

Embodiments

In order to be more intuitive, the characteristics and the working principle of the present invention are described as follows in conjunction with an actual application scenario.

Scenario description: an old parent is not good at using the computer, and entrust his/her son/daughter to purchase online financial products. The parent requires an independent account with detailed information inaccessible to the son/daughter, and each purchase transaction will not be valid unless it is acknowledged by the parent.

(1) Agency relation setting

Scenario description: the parent and the son/daughter have their independent accounts on the payment platform, respectively; the son/daughter initiates an account agency request for the parent on the payment platform, and an agency relation is valid after the account agency request is acknowledged by the parent.

Fig. 11 illustrates a flow diagram of setting an agency relation in this embodiment, and the flow includes two stages:

A first stage: flow of account agency request:

a) The agent (son/daughter) logs in his/her account on the payment platform, inputs an account of the consignor (parent), and transmits an “account agency request” instruction to a

central server.

b) The central server reads the instruction, and after the verification succeeds, reads the instruction type as “setting account agency relation”; reads a login account (son/daughter) and a transaction account (parent) from the instruction; retrieves a database according to the account and checks whether the two accounts are normal; next, transmits a verification code to the consignor (parent), and transmits a verification request to the consignor (parent) through an instant messaging interface; wherein the verification request includes filling in an instruction type, an answerback code, a verification code and a system tracking number, and other contents are consistent with the original request instruction. Meanwhile, the central server stores records of the account agency relation. To be noted, the function of the system tracking number is to associate the request instruction with the answerback instruction.

A second stage: flow of account agency validation:

c) The consignor (parent) inputs a verification code, which are returned to the central server through the instant messaging interface, and the central server generates an answerback instruction according to the input information;

d) The request instruction and the answerback instruction are matched with each other through the verification code according to the system tracking number and the search record of the account agency relation; and the account agency relation is valid once the verification succeeds.

Please refer to the specific working mode of corresponding step in Fig. 7 for the specific working mode of cancelling the agency relation, which is omitted herein.

(2) Agency payment

Scenario description: the agent pays for the agency account. The son/daughter uses the account of the parent to pay for the purchased financial product on behalf of the parent.

Fig. 12 illustrates a flow diagram of an agency payment in this embodiment. The flow has three stages:

A first stage: verification of login account

a) The son/daughter logs in his/her own account, selects the account of the parent for the payment, and transmits a “transaction verification request” instruction to the central server.

b) The central server acquires the transaction verification request instruction, and parses the transaction verification request instruction to acquire control information thereof; inquires content information of the transaction verification request instruction according to the control information of the transaction verification request instruction, so as to acquire a login account, and performs a verification of validity of the login account;

A second stage: generation of payment acknowledgement information

c) After the verification on the first stage succeeds, an agent client performs a payment process, and the central server generates an “agency payment request” instruction according to the operation; wherein the “agency payment request” includes order content, and result information of the operation performed by the agent client.

d) The “agency payment request” instruction is parsed, and an instruction type (agency payment request) and an agency marker (Yes) are read from the instruction; a login account and a transaction account are read from the instruction according to those information, and an account agency relation is searched for and verified. The verification comprises: the central server generates a verification code and invalid time thereof; assembles the verification code and the invalid time thereof with the “agency payment request” instruction, so as to generate payment acknowledgement information, which is transmitted to the consignor (parent); and meanwhile, stores service logs and various request instructions.

A third stage: agency payment validation

e) The consignor (parent) inputs a verification code according to the payment acknowledgement information to generate response information, which is transmitted to the central server through the instant messaging interface;

f) The central server searches for service logs of the previous stage, and judges whether the invalid time of the verification is exceeded; if so, updates a state of the service logs to be overtime-processed, and returns failure information to the consignor (parent); otherwise, updates the state of the service logs to be normal response, determines that the operation behavior in the payment process performed by the agent is valid, and completes the payment transaction.

The technical solution can perform the general payment transaction. The contents not illustrated in Figs. 1 to 10 may refer to the prior art. To be noted, in that case, the login account and the transaction account are corresponding to the same user.

As can be seen from the descriptions of the above embodiments, the consignor can conveniently entrust his account to any other person for an operation, but each payment transaction of the account is still not valid until it is acknowledged by the consignor, thus the security is high.

The embodiments described above further explain the objective, the technical solution and the advantageous effect of the present invention in details, but it shall be appreciated that they are just specific embodiments of the present invention, and do not restrict the protection scope of the present invention. Any amendment, equivalent replacement, improvement, etc.

made within the spirit and principle of the present invention shall fall within the protection scope of the present invention.

CLAIMS

1. An agency payment method, comprising:

acquiring an agency payment request instruction, and parsing the agency payment request instruction to acquire control information thereof; wherein the agency payment request instruction is generated according to an agent's operation of performing a payment process through an account of a consignor;

inquiring content information of the agency payment request instruction according to the control information of the agency payment request instruction, so as to acquire a login account and a transaction account, and performing a verification of an agency relation between the login account and the transaction account; generating payment acknowledgement information after the verification succeeds; acquiring response information according to the payment acknowledgement information and performing a verification of the response information; wherein the transaction account is an account of the consignor, the login account is an account of the agent, and the response information is generated according to the consignor's acknowledgement of the agent's operation of performing the payment process;

determining whether to complete the payment according to a result of the verification of the response information.

2. The method according to claim 1, further comprising:

acquiring an account agency request instruction, and parsing the account agency request instruction to acquire control information thereof;

inquiring content information of the account agency request instruction according to the control information of the account agency request instruction, so as to acquire the login account and the transaction account, and performing a verification of the login account and the transaction account;

establishing an agency relation between the login account and the transaction account, after the verification succeeds.

3. The method according to claim 1, further comprising:

acquiring a transaction verification request instruction before the agency payment request instruction is acquired, and parsing the transaction verification request instruction to acquire control information thereof;

inquiring content information of the transaction verification request instruction according to the control information of the transaction verification request instruction, acquiring the login account, and performing a verification of validity of the login account, wherein the

agency payment request instruction is allowed to be acquired only when the verification succeeds.

4. The method according to claim 1 or 2, further comprising:

acquiring an account agency cancelling instruction, and parsing the account agency cancelling instruction to acquire control information thereof;

inquiring content information of the account agency cancelling instruction according to the control information of the account agency cancelling instruction, acquiring the transaction account, and performing a verification of validity of the transaction account;

cancelling an agency relation between the login account and the transaction account, after the verification succeeds.

5. The method according to claim 1 or 2, further comprising:

storing account information, the agency relation, operation logs and verification information.

6. An agency payment apparatus, comprising:

a first instruction parsing unit used to acquire an agency payment request instruction, and parse the agency payment request instruction to acquire control information thereof; wherein the agency payment request instruction is generated according to an agent's operation of performing a payment process through an account of a consignor;

an agency payment behavior verification unit used to inquire content information of the agency payment request instruction according to the control information of the agency payment request instruction, so as to acquire a login account and a transaction account, and perform a verification of an agency relation between the login account and the transaction account; generate payment acknowledgement information after the verification succeeds; acquire response information according to the payment acknowledgement information and perform a verification of the response information; wherein the transaction account is an account of the consignor, the login account is an account of the agent, and the response information is generated according to the consignor's acknowledgement of the agent's operation of performing the payment process;

a payment unit used to determine whether to complete a payment according to a result of the verification of the response information.

7. The apparatus according to claim 6, further comprising:

a second instruction parsing unit used to acquire an account agency request instruction, and parse the account agency request instruction to acquire control information thereof;

an agency relation verification unit used to inquire content information of the account

agency request instruction according to the control information of the account agency request instruction, so as to acquire the login account and the transaction account, and perform a verification of the login account and the transaction account;

an agency relation establishing unit used to establish an agency relation between the login account and the transaction account, after the verification succeeds.

8. The apparatus according to claim 6, further comprising:

a third instruction parsing unit used to acquire a transaction verification request instruction before the agency payment request instruction is acquired, and parse the transaction verification request instruction to acquire control information thereof;

a login account verification unit used to inquire content information of the transaction verification request instruction according to the control information of the transaction verification request instruction, acquire the login account, and perform a verification of validity of the login account; wherein the agency payment request instruction is allowed to be acquired only when the verification succeeds.

9. The apparatus according to claim 6 or 7, further comprising:

a fourth instruction parsing unit used to acquire an account agency cancelling instruction, and parse the account agency cancelling instruction to acquire control information thereof;

a transaction account verification unit used to inquire content information of the account agency cancelling instruction according to the control information of the account agency cancelling instruction, acquire the transaction account, and perform a verification of validity of the transaction account;

an agency relation cancelling unit used to cancel the agency relation between the login account and the transaction account, after the verification succeeds.

10. The apparatus according to claim 6 or 7, further comprising:

a storage unit used to store account information, the agency relation, operation logs and verification information.

11. An electronic device, comprising an agency payment apparatus according to any one of claims 6 to 10.