DESCRIPTION

SYSTEM, METHOD, AND PROGRAM FOR INTERNATIONAL TRADE

Technical Field

[0001] The present invention relates to a technique for proceeding with a procedure for an international trade transaction according to a state of the cargo to be exported and imported such as its current location.

Background Art

[0002] In an international trade transaction in which commodities are bought from or sold to a foreign trading partner, various paper documents are delivered and received among a number of parties involved in the international trade transaction. For example, parties involved in an international trade transaction such as the importer and exporter, forwarders, shipping firms, customs, banks, and insurance firms make documents for various procedures and send them to predetermined partners. Many of these documents are created and sent according to the transportation status of the cargo to be exported and imported.

Citation List

Patent Literature

[0003] [PTL 1] Japanese Patent Laid-Open No. 2011-96060

[PTL 2] Japanese Patent Laid-Open No. 2005-310037

[PTL 3] Japanese Patent Laid-Open No. 2002-312446

Summary of Invention

Technical Problem

[0004] However, there has heretofore been a problem of failing to properly time the transportation of a cargo and the delivery and receipt of documents with each other, e.g., failing to deliver a necessary document by the time of arrival of the cargo. There have been disclosed techniques involving digitizing documents related to an international trade transaction (see Patent Literatures 1 and 2) and techniques enabling one to check a cargo's status (see paragraphs [0081] to [0087] of Patent Literature 3). None of the patent literatures, however, considers proceeding with the procedures by creating and sending documents according to the transportation status of the cargo.

[0005] Meanwhile, in recent years, use of a smart contract technique, which enables automatic signing of a contract in a blockchain, has been considered in various fields. Use of the smart contract technique makes it possible to automatically execute a transaction in a case where a predefined condition is met.

[0006] The present invention has been made in view of the above problem, and an object thereof is to provide means for enabling a party involved in an international trade transaction to properly proceed with a procedure for the international trade transaction according to the transportation status of the cargo.

Solution to Problem

[0007] To achieve the above object, a program as an aspect of the present invention is a program for causing a computer to execute a method comprising: obtaining information on a state of a cargo; and executing a procedure for an international trade transaction associated with the cargo based on the information on the state, the program being capable of displaying on a screen of the computer the information on the state of the cargo and progress of the procedure for the international trade transaction associated with the cargo.

Advantageous Effects of Invention

[0008] According to the present invention, a party involved in an international trade transaction can perform a procedure for the international trade transaction by using a document digitized according to a state of the cargo such as its current location. Further,

by using a smart contract technique, it is possible to automatically execute the procedure for the international trade transaction.

Brief Description of Drawings

[0009] [Fig. 1] Fig. 1 is a diagram for explaining procedures for an international trade transaction according to an embodiment of the present invention;

[Fig. 2] Fig. 2 is a diagram for explaining timing of the procedures for an international trade transaction with a state of the cargo such as its current location according to an embodiment of the present invention;

[Fig. 3] Fig. 3 is a functional block diagram of a computer of each party involved in an international trade transaction according to an embodiment of the present invention;

[Fig. 4] Fig. 4 is a transition diagram showing states of documents related to an international trade transaction according to an embodiment of the present invention;

[Fig. 5] Fig. 5 is an example of a timing information database for international trade transactions according to an embodiment of the present invention;

[Fig. 6] Fig. 6 is a diagram showing the relation between Figs. 6A, 6B, and 6C;

[Fig. 6A] Fig. 6A is an example of a screen displayed by software for executing procedures for an international trade transaction according to an embodiment of the present invention;

[Fig. 6B] Fig. 6B is an example of a screen displayed by the software for executing procedures for an international trade transaction according to the embodiment of the present invention; and

[Fig. 6C] Fig. 6C is an example of a screen displayed by the software for executing procedures for an international trade transaction according to the embodiment of the present invention.

Description of Embodiments

[0010] Embodiments of the present invention will be specifically described below with reference to the drawings. Note that a description will be given herein by taking an importer and exporter, forwarders, shipping firms, banks, and insurance firms as an example of parties involved in an international trade transaction. In the present invention, however, the parties involved in an international trade transaction are not limited to those but can include the customs, the manufacturer that manufactures the imported commodities, the vendor of the imported commodities, the competent government agencies in the importing country and the exporting country, measurers, and so on. Also, although a case of marine transport will be described herein, the present invention is not limited to this case but is applicable to a case of air transport. Also, "states of a cargo" refer to, for example, the current location of the cargo or container, whether the cargo has been damaged, the temperature of where the cargo is, vibration of the cargo, and so on.

[0011] First of all, main procedures for an international trade transaction according to an embodiment of the present invention will be described with reference to Fig. 1. In the present invention, documents for various procedures for an international trade transaction are digitized and managed. Note that the following steps may be performed simultaneously, performed in a different order, or partly omitted.

[0012] · In step 1 (S1), an exporter (i.e., seller) 101 and an importer (i.e., buyer) 102 sign a sales transaction agreement on commodities or the like. A computer of the importer 102 can now create a purchase order (P/O) addressed to the exporter 101. A computer of the exporter 101 can then create a sales note (S/N) addressed to the importer 102. The importer 102 then can confirm the content of the sales note (S/N) created by the computer of the exporter 101 on the computer of the importer 102. Further, the computer of the importer 102 can create a sales note (S/N) to be sent back to the exporter 101.

· In step 2 (S2), a forwarder (also called a freight forwarding business operator) 103 arranges to carry in a cargo of the commodities or the like to a predetermined location

such as a bonded area. Here, it is assumed that the exporter 101 has requested the forwarder 103 to carry out a shipping procedure, a customs clearance procedure, and the like. The present invention, however, is applicable to a case without the intervention of the forwarder 103.

· In step 3 (S3), a computer of a shipping firm 104 can create a booking confirmation (B/C) addressed to the forwarder 103. The computer of the shipping firm 104 can also create a bill address to the forwarder 103.

· In step 4 (S4), at least one of the computer of the exporter 101 and the computer of the importer 102 can apply for insurances such as a marine insurance and a trade insurance from an insurance firm 105 or 106. Also, computers of the insurance firms 105 and 106 can create and issue insurance policies of the insurances which the computer of the exporter 101 and/or the importer 102 has applied for.

· In step 5 (S5), the computer of the exporter 101 can create shipping documents (e.g., a commercial invoice (C/I) and a packing list (P/L) addressed to the importer 102). The computer of the exporter 101 can also create a shipping instruction (S/I) addressed to the forwarder 103.

· In step 6 (S6), a computer of the forwarder 103 can create a dock receipt (D/R) addressed to the shipping firm 104.

· In step 7 (S7), the computer of the shipping firm 104 can create a bill of lading (B/L) addressed to the forwarder 103.

· In step 8 (S8), the computer of the exporter 101 can create a shipping advice (S/A) addressed to the importer 102.

· In step 9 (S9), a computer of a shipping firm 107 can create an arrival notice (A/N) addressed to the importer 102.

· In step 10 (S10), the shipping firm 107 and a forwarder 108 arrange the discharge of the cargo.

· In step 11 (S11), the cargo arrives at the importer 102.

· In step 12 (S12), the payment for the commodities or the like is made from a bank 109 in the importing place to a bank 110 in the exporting place.

[0013] Here, a description will be given of typical export and import declaration procedures always carried out in the exporting country and the importing country (i.e., procedures for customs clearance). In the exporting country, the exporter 101 must make an export declaration to the exporting country's customs when exporting a cargo (e.g., when the cargo is carried in to a bonded area in the exporting country). The exporter 101 or the forwarder 103 is granted an export permission by submitting necessary documents (such as an application for export license) to the customs. In the importing country, the importer 102 must make an import declaration to the importing country's customs when importing a cargo (e.g., when the cargo is carried in to a bonded area in the importing country). The importer 102 or the forwarder 108 can be grant an import permission by submitting necessary documents (such as an application for import license) to the customs and paying the tax. The documents which the exporter 101 or the like or the importer 102 or the like submit to their customs are, for example, an application for export license or application for import license, credit check report, offer sheet, consular invoice, certificate of origin, certificate and list of measurement and/or weight, inspection certificate, health certificate, and so on.

[0014] Here, the use of a blockchain technique will be described. In the present invention, the computers of the parties involved in an international trade transaction such as the importer and exporter, forwarders, shipping firms, banks, and insurance firms can be considered participants in a blockchain. Thus, the computer of an involved party can broadcast transaction data (e.g., the data of a created document) to the computers of all involved parties. Also, the computers of the parties involved in the international trade transaction can share the data of various documents related to the international trade transaction in the blockchain (distributed ledger). Specifically, the computers of the parties involved in the international trade transaction can share the data of the purchase

order (P/O), sales note (S/N), booking confirmation (B/C) and bill, commercial invoice (C/I), packing list (P/L), shipping instruction (S/I), dock receipt (D/R), bill of lading (B/L), shipping advice (S/A), arrival notice (A/N), application for export license, application for import license, credit check report, offer sheet, consular invoice, certificate of origin, certificate and list of measurement and/or weight, inspection certificate, health certificate, and so on. Further, the participants in the blockchain can be granted authorities individually. For example, for each document, whether to grant an authority to browse the document and whether to grant an authority to process the document (such as inputting data) can be set for each participant in the blockchain. Note that the above listed documents are some documents related to the international trade transaction and, in the present invention, can include other documents such as a letter of credit (L/C).

[0015] Next, a description will be given of timing of procedures for an international trade transaction with a state of the cargo such as its current location according to an embodiment of the present invention with reference to Fig. 2.

[0016] In the present invention, each procedure for an international trade transaction can be timed with the transportation status of the cargo by obtaining a state of the cargo such as its current location. The left side of Fig. 2 shows an example of the procedures for international trade transaction while the right side of Fig. 2 shows an example of the current location of the cargo. Note that step 1 (S1) to step 12 (S12) on the left side of Fig. 2 are the same as step 1 (S1) to step 12 (S12) in Fig. 1.

[0017] In step 1 (S1), the cargo of commodities or the like is being managed by the exporter 101. For example, the cargo is stored in a warehouse of the manufacturer manufacturing the commodities to be exported or the like.

[0018] In step 2 (S2), the cargo is handed over from the exporter 101 to the forwarder 103 and managed by the forwarder 103. The forwarder 103 can arrange to carry in the cargo to a predetermined location such as a bonded area. For example, when the creation and confirmation of the data of the necessary documents (e.g., purchase order

and sales note) are completed, the computer of the forwarder 103 can display on a screen a message instructing the forwarder 103 to arrange to carry in the cargo.

[0019] In step 3 (S3) to step 5 (S5), the cargo is carried in to a bonded warehouse or the like.

[0020] In step 3 (S3), upon arrival of the cargo at the predetermined location, the computer of the shipping firm 104 can create a booking confirmation addressed to the forwarder 103 and broadcast it to the computers of all involved parties. In addition to the booking confirmation, the computer of the shipping firm 104 may create and transmit a bill. Specifically, according to the current location of the cargo, a person in charge in the shipping firm 104 can input data for creating the booking confirmation and the bill (or the computer of the shipping firm 104 can automatically create the booking confirmation and the bill), and the broadcast booking confirmation and the bill become valid among the involved parties.

[0021] In step 4 (S4), the computers of the insurance firms 105 and 106 can contract with the exporter 101 and the importer 102 for an insurance whose coverage on the cargo can start when the cargo passes a predetermined location or an insurance whose coverage on the cargo can end when the cargo passes a predetermined location. Also, the computers of the insurance firms 105 and 106 can contract an insurance whose coverage period can be set by the hour. Further, the computers of the insurance firms 105 and 106 can execute processes as below by obtaining information on states of the cargo. For example, the computers of the insurance firms 105 and 106 can automatically make an insurance payout in a case where damage of the cargo is detected. Also, the computers of the insurance firms 105 and 106 can automatically make an insurance payout in a case where it is detected that the temperature of the cargo is inappropriate (e.g., frozen goods are stored at normal temperature). Also, the computers of the insurance firms 105 and 106 can automatically make an insurance payout in a case where it is detected that the container has moved excessively on the ship (i.e., damage is found). In sum, the

computers of the insurance firms 105 and 106 can enable or disable the coverages according to the current location of the cargo, and automatically make an insurance payout according to a state of the cargo.

[0022] In step 5 (S5), when the creation of the data of the necessary documents is completed, the computer of the exporter 101 can display on a screen a message instructing the exporter 101 to create a shipping document and a shipping instruction.

[0023] In step 6 (S6), upon, for example, arrival of the container storing the cargo at a container yard of the shipping firm 104, the computer of the forwarder 103 can create a dock receipt addressed to the shipping firm 104 and broadcast it to the computers of all involved parties. Specifically, according to the current location of the cargo, a person in charge in the forwarder 103 can input data for creating the dock receipt (or the computer of the forwarder 103 can automatically create the dock receipt), and the broadcast dock receipt becomes valid among the involved parties.

[0024] In step 7 (S7), when, for example, the container arrives at a predetermined location and the creation of the data of the necessary document (e.g., dock receipt) is completed, the computer of the shipping firm 104 can create a bill of lading addressed to the forwarder 103 and broadcast it to the computers of all involved parties. Specifically, according to the current location of the cargo and the status of creation of the necessary document, the person in charge in the shipping firm 104 can input data for creating the bill of lading (or the computer of the shipping firm 104 can automatically create the bill of lading), and the broadcast bill of lading becomes valid among the involved parties.

[0025] In step 8 (S8), when, for example, the loading of the container onto the ship is completed, the computer of the exporter 101 can create a shipping advice addressed to the importer 102 and broadcast it to the computers of all involved parties. Specifically, according to the current location of the cargo, a person in charge in the exporter 101 can input data for creating the shipping advice (or the computer of the exporter 101 can

automatically create the shipping advice), and the broadcast shipping advice becomes valid among the involved parties.

[0026] In step 9 (S9), when the cargo (i.e., ship) passes a predetermined point on the sea, the computer of the shipping firm 107 can create an arrival notice addressed to the importer 102 and broadcast it to the computers of all involved parties. Specifically, according to the current location of the cargo, a person in charge in the shipping firm 107 can input data for creating the arrival notice (or the computer of the shipping firm 107 can automatically create the arrival notice), and the broadcast arrival notice becomes valid among the involved parties.

[0027] In step 10 (S10), the shipping firm 107 and the forwarder 108 can arrange the discharge. For example, the computers of the shipping firm 107 and the forwarder 108 can display on a screen a message instructing the persons in charge in the shipping firm 107 and the forwarder 108 to arrange the discharge when the cargo (i.e., ship) passes a predetermined point on the sea (e.g., a point which the ship passes several days before arrival at the port in the importing place).

[0028] In step 11 (S11), the importer 102 receives the cargo. The cargo is then transported from the importer 102 to the vendor of the imported commodities or the like.

[0029] In step 12 (S12), the payment for the commodities or the like is made from a bank 109 in the importing place to a bank 110 in the exporting place. For example, when the cargo of commodities or the like arrives at the importer 102, the payment for the commodities or the like may be automatically made from the bank 109 in the importing place to the bank 110 in the exporting place. Alternatively, part of the payment may be automatically made when the cargo passes a predetermined location (for example, a half of the payment may be made when the cargo passes the customs in the importing place).

[0030] The bank 110 in the exporting place (i.e., a bank used by the exporter 101) and the bank 109 in the importing place (i.e., a bank used by the importer 102) can automatically perform various payments according to a status of the cargo such as its

current location. For example, upon arrival of the cargo at a predetermined location, the bank 110 in the exporting place can perform the payment from the exporter 101 to the forwarder 103 (including the fees for the declaration to the customs and so on) and the payment from the exporter 101 to the shipping firm 104.

[0031] Here, a description will be given of the timing of export and import declaration procedures with a state of the cargo such as its current location. In the exporting country, upon arrival of the cargo at a predetermined location (e.g., inside of a bonded area in the exporting country), the computer of the forwarder 103 (or the exporter 101) can create documents addressed to the exporting country's customs (such as an application for export license) and broadcast them to the computers of all involved parties. Specifically, according to the current location of the cargo, the person in charge in the forwarder 103 can input data for creating the documents addressed to the customs (or the computer of the forwarder 103 can automatically create the documents for the customs), and the broadcast documents addressed to the customs become valid among the involved parties. Further, according to the current location of the cargo, the computer of the forwarder 103 can transmit the documents addressed to the exporting country's customs to a server (not shown) of the customs that receive export declarations. On the other hand, in the importing country, upon arrival of the cargo at a predetermined location (e.g., inside of a bonded area in the importing country), the computer of the forwarder 108 (or the importer 102) can create documents addressed to the importing country's customs (such as an application for import license) and broadcast them to the computers of all involved parties. Specifically, according to the current location of the cargo, the person in charge in the forwarder 108 can input data for creating the documents for the customs (or the computer of the forwarder 108 can automatically create the documents for the customs), and the broadcast documents addressed to the customs become valid among the involved parties. Further, according to the current location of the cargo, the computer of the forwarder 108

can transmit the documents addressed to the importing country's customs to a server (not shown) of the customs that receive import declarations.

[0032] Here, a method of obtaining states of the cargo such as its current location will be described. While an exemplary method will be described below, the present invention is not limited to it, and any method capable of obtaining the states of the cargo such as its current location can be employed. The computers of the participants in the blockchain, which are the importer and exporter, forwarders, shipping firms, banks, and insurance firms, can share information on the states of the cargo such as its current location. Note that a server that manages data indicating the states of the cargo such as its current location is installed in a case where no blockchain technique is used.

[0033] For example, the information on the states of the cargo such as its current location can be obtained on a cargo-by-cargo basis (e.g., for each exported and imported commodity or for each package of a predetermined number of commodities). Alternatively, the information on the states of the cargo such as its current location can be obtained on a container-by-container basis. In other words, by obtaining the information on states of each container such as its current location, it is possible to figure out the states of the cargo inside the container such as its current location. Moreover, to the cargo or container, a sensor (e.g., RFIC tag or beacon), transmitter, etc. can be attached which obtains the current location of the cargo or container, whether it is damaged, its temperature, vibration, etc. In the case of using the sensor, a reader for the sensor is installed at each of locations which the cargo or container passes (e.g., the ship, customs, terminal gates, and ports) or on the container itself. In the case of using the transmitter, its data can be transmitted through a satellite connection or a mobile communication such as 3G or 4G communication.

[0034] Fig. 3 is a functional block diagram of the computer of each party involved in an international trade transaction according to an embodiment of the present invention. Specifically, Fig. 3 is a functional block diagram of the computer of the participants in a

blockchain which are an importer and exporter, forwarders, shipping firms, banks, and insurance firms.

[0035] A computer 300 is a personal computer including a processor and a memory, for example. The computer 300 of an involved party can transmit and receive data to and from the computers 300 of the other involved parties. Each computer 300 can include a location information obtaining unit 301, a document creation unit 302, a document transmission unit 303, a document reception unit 304, a location information storage unit 305, a document storage unit 306, and a timing information database 307. The computer 300 also includes a storage medium storing a program that causes the location information obtaining unit 301, the document creation unit 302, the document transmission unit 303, and the document reception unit 304 to operate.

[0036] The computers 300 of a plurality of parties involved in an international trade transaction can share the data of location information in their location information storage units 305, the data of documents in their document storage units 306, and the data in their timing information databases 307 on the international trade transaction in the blockchain. Note that a server that manages the data of the location information in the location information storage units 305, the data of the documents in the document storage units 306, and the data in the timing information databases 307 is installed in a case where no blockchain technique is used.

[0037] The location information obtaining unit 301 can obtain a state of the cargo or container such as its current location from a reader reading the sensor on the cargo or container or a transmitter attached to the cargo or container. The location information obtaining unit 301 can store the data of the obtained information on a state such as the current location in the location information storage unit 305. Each cargo is managed in association with information identifying the international trade transaction of the cargo (e.g., purchase order (P/O) number).

[0038] The document creation unit 302 can create documents related to the international trade transaction (such as a purchase order (P/O), sales note (S/N), booking confirmation (B/C) and bill, commercial invoice (C/I), packing list (P/L), shipping instruction (S/I), dock receipt (D/R), bill of lading (B/L), shipping advice (S/A), arrival notice (A/N), application for export license, application for import license, credit check report, offer sheet, consular invoice, certificate of origin, certificate and list of measurement and/or weight, inspection certificate, and health certificate). The document creation unit 302 can also store the data of the created documents in the document storage unit 306. Each document is managed in association with information identifying the international trade transaction of the document (e.g., purchase order (P/O) number).

[0039] Here, a method of creating documents related to an international trade transaction will be described. A party involved in an international trade transaction (e.g., a person in charge in a company being the importer) can input the data of basic information on the international trade transaction into the computer 300 to create a document related to the international trade transaction (e.g., purchase order). Also, a party involved in the international trade transaction (e.g., a person in charge in a company being the exporter) can input the data of information to be added to an existing document (e.g., purchase order) into the computer 300 to create a document related to the international trade transaction (e.g., sales note). Upon arrival of the cargo at a predetermined location, the computer 300 can display on a screen a message instructing the person in charge to input the data of the information to be added. For example, a computer 300 that created a document may transmit to another computer 300 a message instructing a person in charge to input the data of information to be added. In another embodiment, the computers 300 can automatically create the documents related to the international trade transaction without requiring the persons in charge to input the data of the basic information on the international trade transaction and the data of the information to be added by obtaining

the pieces of data from databases (not shown). A specific example will be described below with reference to Fig. 4.

[0040] Fig. 4 is a transition diagram showing states of documents related to an international trade transaction according to an embodiment of the present invention. As shown in Fig. 4, the data of a purchase order created by the computer of the importer 102 is stored as master data (the basic information on the international trade transaction) in the document storage unit 306. Thereafter, a sales note, confirmed sales note, booking confirmation, and so on can be created by adding data to the master data (i.e., purchase order).

[0041] Referring back to Fig. 3, the document transmission unit 303 can transmit each document created by the document creation unit 302 to other computers 300. For example, the document transmission unit 303 can broadcast the data of the document to the computers 300 of all involved parties. Alternatively, for example, the document transmission unit 303 can transmit the data of the document or information for identifying the document to the computers 300 of the involved parties to which the document should be sent, via notification means such as e-mail. Thus, the computer 300 of one involved party can notify the computer 300 of the involved party who is supposed to perform the next procedure (the computer 300 which is supposed to create the next document) to add information to the document created by the computer 300 of the one involved party.

[0042] The document reception unit 304 can receive documents created by the other computers 300 from these other computers 300. For example, the document reception unit 304 can receive the data of documents broadcast from the computers 300 of the other involved parties. Alternatively, for example, the document reception unit 304 can receive the data of documents from the computers 300 of the other involved parties via notification means such as e-mail.

[0043] The location information storage unit 305 can store the data indicating the information on a state of the cargo such as its current location obtained by the location

information obtaining unit 301. Each cargo is managed in association with the information identifying the international trade transaction of the cargo (e.g., purchase order (P/O) number).

[0044] The document storage unit 306 can store the data of each document related to the international trade transaction created by the document creation unit 302. Each document is managed in association with the information identifying the international trade transaction of the document (e.g., purchase order (P/O) number).

[0045] The timing information database 307 stores conditions that must be met to execute a procedure for the international trade transaction (e.g., creation and transmission of a document). A specific example will be described below with reference to Fig. 5.

[0046] Fig. 5 is an example of the timing information database for international trade transactions according to an embodiment of the present invention. "INTERNATIONAL TRADE TRANSACTION IDENTIFIER" is an identifier identifying an international trade transaction. For example, "INTERNATIONAL TRADE TRANSACTION IDENTIFIER" is a purchase order number given to each purchase order (P/O). "DOCUMENT" is a document related to the international trade transaction. For example, "DOCUMENT" includes purchase order (P/O), sales note (S/N), booking confirmation (B/C) and bill, commercial invoice (C/I), packing list (P/L), shipping instruction (S/I), dock receipt (D/R), bill of lading (B/L), shipping advice (S/A), and arrival notice (A/N). "PROCESS TO BE EXECUTED" is the content of the process to be executed in a case where necessary conditions are met. For example, "PROCESS TO BE EXECUTED" includes: creating the document; broadcasting the document to all involved parties; transmitting the document or information for identifying the document to a particular involved party via e-mail or the like; displaying a message on a screen of the computer 300; signing an insurance contract; starting and ending the coverage; making an insurance payout; making the payment for the exported and imported commodities or the like; and making payments from the exporter to the forwarder and

shipping firm. "CREATING PARTY" is the party who creates the document specified in "PROCESS TO BE EXECUTED". "TRANSMISSION DESTINATION" is the involved party to which the document specified in "PROCESS TO BE EXECUTED" should be sent. "CONDITIONS" are conditions that must be met to execute the process specified in "PROCESS TO BE EXECUTED". For example, "CONDITIONS" include the states of the cargo (such as the current location, whether the cargo is damaged, temperature, and vibration), completion of creation of the document, and completion of confirmation of the document.

[0047] Here, use of a smart contract technique in a blockchain will be described. In the present invention, each computer 300 participating in a blockchain can automatically execute the corresponding process defined in "PROCESS TO BE EXECUTED" in the timing information database 307 in a case where the corresponding conditions defined in "CONDITIONS" are met.

[0048] Figs. 6A to 6C are an example of screens displayed by software for executing procedures for an international trade transaction according to an embodiment of the present invention. Each of the computers 300 of the parties involved in an international trade transaction can display screens as shown in Figs. 6A to 6C. As shown in Figs. 6A to 6C, the parties involved in the international trade transaction can instantly figure out the progress of the procedures for the international trade transaction ("PROCESS STATUS") and the transportation status of the cargo ("CARGO LOCATION").

[0049] As described above, in the present invention, the procedures for an international trade transaction associated with a cargo (e.g., creation and transmission of a document related to the international trade transaction) can be executed based on the information on a state of the cargo such as its current location. Moreover, by using a smart contract technique, it is possible to automatically execute the procedures for the international trade transaction.

[0050] Although embodiments of the present invention have been described thus far, the above embodiments are mere examples. It is needless to say that the present invention is not limited to the above embodiments but may be carried out in various different ways within the scope of the technical idea of the present invention.

[0051] Also, the scope of the present invention is not limited to the illustrated and described exemplary embodiments but encompasses all embodiments that bring about advantageous effects equivalent to those which the present invention aims to achieve. Further, the scope of the present invention is not limited to the combinations of the features of the invention defined in the claims, but can be defined by any desired combinations of particular features among all of the disclosed features.

Reference Signs List

[0052] 101 exporter
102 importer
103 forwarder
104 shipping firm
105 insurance firm
106 insurance firm
107 shipping firm
108 forwarder
109 bank in importing place
110 bank in exporting place
300 computer
301 location information obtaining unit
302 document creation unit
303 document transmission unit
304 document reception unit

305 location information storage unit

306 document storage unit

307 timing information database

CLAIMS

1. A program for causing a first computer participating in a blockchain and communicatively connected to a second computer to execute a method comprising:

obtaining information on a state of a cargo through a reader reading a sensor on the cargo or a transmitter attached to the cargo; and

if a condition associated with the information on the state of the cargo is met, executing, by a smart contract in the blockchain, a procedure for an international trade transaction associated with the cargo, which is associated with the condition;

the program being capable of displaying on a screen of the first computer the information on the state of the cargo and progress of the procedure for the international trade transaction associated with the cargo.

2. A first computer participating in a blockchain and communicatively connected to a second computer, characterized in that the first computer is configured to:

obtain information on a state of a cargo through a reader reading a sensor on the cargo or a transmitter attached to the cargo; and

if a condition associated with the information on the state of the cargo is met, execute, by a smart contract in the blockchain, a procedure for an international trade transaction associated with the cargo, which is associated with the condition.

3. The first computer according to claim 2, characterized in that the procedure for the international trade transaction is at least one of: creating a document related to the international trade transaction; transmitting the document related to the international trade transaction to the second computer; displaying a message on a screen of the first computer or the second computer; signing an insurance contract; starting or ending a

coverage; making an insurance payout; making a payment for the cargo; and making a payment related to the international trade transaction.

4. The first computer according to claim 3, characterized in that the second computer is configured to, based on the information on the state of the cargo, add data to the document received from the first computer and transmit the document with the data added thereto to a third computer.

5. An international trade transaction system characterized in that

the international trade transaction system comprises a plurality of computers,

the plurality of computers participate in a blockchain,

the plurality of computers include at least a first computer and a second computer,

the first computer is configured to create data of a purchase order addressed to an exporter and broadcast the created data of the purchase order to at least the second computer,

the broadcast purchase order is made valid in at least the first computer and the second computer,

the second computer is configured to, when determining arrival of a cargo associated with the purchase order at a bonded area in an importing country based on information on a state of the cargo obtained through a reader reading a sensor on the cargo or a transmitter attached to the cargo, create data of a document for import declaration based on the data of the purchase order and broadcast the created data of the document for the import declaration to at least the first computer, and

the broadcast document for the import declaration is made valid in at least the first computer and the second computer.

6. An international trade transaction system characterized in that

the international trade transaction system comprises a plurality of computers,

the plurality of computers participate in a blockchain,

the plurality of computers include at least a first computer and a second computer,

the first computer is configured to receive broadcast data of a purchase order addressed to an exporter,

the broadcast purchase order is made valid in at least the first computer and the second computer,

the second computer is configured to, when determining arrival of a cargo associated with the purchase order at a bonded area in an exporting country based on information on a state of a cargo obtained through a reader reading a sensor on the cargo or a transmitter attached to the cargo, create data of a document for export declaration based on the data of the purchase order and broadcast the created data of the document for the export declaration to at least the first computer, and

the broadcast document for the export declaration is made valid in at least the first computer and the second computer.

7. A method executed by a first computer participating in a blockchain and communicatively connected to a second computer, characterized in that the method comprises:

obtaining information on a state of a cargo through a reader reading a sensor on the cargo or a transmitter attached to the cargo; and

if a condition associated with the information on the state of the cargo is met, executing, by a smart contract in the blockchain, a procedure for an international trade transaction associated with the cargo, which is associated with the condition.