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14/660,014	03/17/2015	Brian D. Armstrong	COIN-P01-US5	1405

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EXAMINER
KHATTAR, RAJESH

ART UNIT	PAPER NUMBER
3693	

NOTIFICATION DATE	DELIVERY MODE
10/22/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@Schox.com
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	Office Action Summary	Application No. 14/660,014	Applicant(s) Armstrong, Brian D.
		Examiner RAJESH KHATTAR	Art Unit 3693	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 8/5/2019.
　　☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2a)☑ This action is **FINAL**.　　　2b) ☐ This action is non-final.
3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 64-68,70,73-77,79,82 and 142-143 is/are pending in the application.
　　5a) Of the above claim(s) _____ is/are withdrawn from consideration.
6) ☐ Claim(s) _____ is/are allowed.
7) ☑ Claim(s) 64-68,70,73-77,79,82 and 142-143 is/are rejected.
8) ☐ Claim(s) _____ is/are objected to.
9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined <u>allowable</u>, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.
11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
Certified copies:
　　a)☐ All　　b)☐ Some**　　c)☐ None of the:
　　　　1.☐ Certified copies of the priority documents have been received.
　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.
　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date 9/19/2019,7/5/2019,5/23/2019.
3) ☑ Interview Summary (PTO-413) Paper No(s)/Mail Date 9/23/2019.
4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first

inventor to file provisions of the AIA.

Applicant filed a response dated 8/5/2019 in which claims 1-63, 69, 71, 72, 78, 80-81, and 83-

141 have been canceled, claims 64, 70, 73, 79, and 82 have been amended and new claims 142-143

have been added. Thus, the claims 64-68, 70, 73-77, 79, 82, and 142-143 are pending in the application.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
conditions and requirements of this title.

Claims 64-68, 70, 73-77, 79, 82, and 142-143 are rejected under 35 U.S.C. 101 because the

claimed invention is directed to the abstract idea of effecting a payment to the merchant without

significantly more.

Examiner has identified claim 64 as the claim that represents the invention presented in claims

64, 73, and 82.

Claim 64 is directed to a method, which is one of the statutory categories of invention (*Step 1:*

YES).

The claim 64 recites a series of steps, e.g., receiving a request for payment from the merchant,

including a first amount in a merchant currency, wherein the merchant currency is a currency associated

with a merchant; determining a first exchange rate between the merchant currency and a cryptographic

key based currency, wherein the first exchange rate fluctuates and the first exchange rate is determined

at a first moment in time; converting the first amount in the merchant currency to a first amount in

cryptographic key based currency using the first exchange rate at the first moment in time; providing an

output of the first amount in cryptographic key based currency using the first exchange rate at the first

moment of time for display by a customer as a locked in exchange rate for a predefined period of time;

receiving a send instruction for sending a payment from the customer, wherein the send instruction is at

a second moment in time later than the first moment in time and the exchange rate at the second

moment in time is a second exchange rate that is different than the first exchange rate at the first

moment in time; receiving payment in cryptographic key based currency from the customer in an

amount that is at least the first amount in cryptographic key based currency; determining a second

exchange rate at the second moment in time; converting the first amount in the merchant currency to a

second amount in cryptographic key based currency using the second exchange rate at the second

moment in time; providing an output of a cryptographic key based replacement cost for display,

wherein the output of the replacement cost is determined by calculating a difference between the first

amount in cryptographic key based currency using the first exchange rate and the second amount in

cryptographic key based currency using the second exchange rate; and in response to receiving the

cryptographic key based currency in the merchant *wallet*: transferring the cryptographic key based

currency from the merchant to the host, and transmitting, by the bank, a payment instruction to pay a

second amount in merchant currency to the merchant, wherein the second amount in merchant

currency paid to the merchant is for an amount that is at least in part based on the first amount in the

merchant currency that is converted to cryptographic key based currency at the first moment in time.

These limitations describe the abstract idea of effecting a payment to the merchant, which may

correspond to Certain Methods of Organizing Human Activity (commercial or legal interactions). The

limitations of a host computer system, a merchant computer system, a customer computer system, a

wallet management module, a merchant wallet, one or more computer systems, a host wallet, and a

bank transfer module do not necessarily restrict the claim from reciting an abstract idea. Thus, the claim

64 recites an abstract idea (*Step 2A-Prong 1: YES*).

This judicial exception is not integrated into a practical application because the additional

limitations of a host computer system, a merchant computer system, a customer computer system, a

wallet management module, a merchant wallet, one or more computer systems, a host wallet, and a

bank transfer module result in no more than simply applying the abstract idea using generic computer

elements. The additional elements of a host computer system, a merchant computer system, a

customer computer system, a wallet management module, a merchant wallet, one or more computer

systems, a host wallet, and a bank transfer module are all recited at a high level of generality and under

their broadest reasonable interpretation comprise a generic computer arrangement. The presence of a

generic computer arrangement is nothing more than to implement the claimed invention (MPEP

2106.05(f)). Therefore, the recitations of additional elements do not meaningfully apply the abstract

idea and hence do not integrate the abstract idea into a practical application. Thus, the claim 64 is

directed to an abstract idea (*Step 2A-Prong 2: NO*).

The claim 64 does not include additional elements that are sufficient to amount to significantly

more than the judicial exception because the additional limitations of a host computer system, a

merchant computer system, a customer computer system, a wallet management module, a merchant

wallet, one or more computer systems, a host wallet, and a bank transfer module are all recited at a

high level of generality in that it results in no more than simply applying the abstract idea using generic

computer elements. The limitation of a locked in exchange rate for a predefined period of time is

routine, well-understood, and conventional and is supported by the disclosure of US Patent No.

5,884,274 in col. 6, lines 66-col. 7, line 9; US Patent Application No. 2001/0034605 in [0139], US Patent

Application No. 2002/0023053 in [0093], US Patent No. 6,952,683 in col. 2, lines 9-32, and US Patent

Application No. 2011/0251941 in [0031]. The additional elements when considered separately and as

an ordered combination do not amount to add significantly more as these limitations provide nothing

more than to simply apply the exception in a generic computer environment (*Step 2B: NO*). Thus, the claim 64 is not patent eligible.

Similar arguments can be extended to other independent claims 73 and 82 and hence the claims 73 and 82 are rejected on similar grounds as claim 64.

Dependent claims 65-68, 70, 74-77, 79, and 142-143 further define the abstract idea that is present in their respective independent claims 64, 73, and 82 and thus correspond to Certain Methods of Organizing Human Activity and hence are abstract in nature for the reason presented above. Dependent claims do not include any additional elements that integrate the abstract idea into a practical application or are sufficient to amount to significantly more than the judicial exception when considered both individually and as an ordered combination. Therefore, the claims 64-68, 70, 73-77, 79, 82, and 142-143 are not patent-eligible.

Response to Arguments

Applicant's arguments filed dated 8/5/2019 have been fully considered but they are not persuasive due to the following reasons:

With respect to the rejection of claims 64-82 under 35 U.S.C. 101, Applicant states that the claims recite a practical application that involves using such a host computer system, to allow a customer to use cryptographic key based currency to pay a merchant that expects payment in merchant currency.

Examiner respectfully disagrees and notes that the practical application is not technical in nature. The claim is simply providing a business solution and there is no technical/technology improvement. The practical application appears to provide improvement to a payment process, which is abstract in nature. In other words, the claim is directed to improving an abstract idea instead of improving a technology or providing a computer functionality improvement. Thus, these arguments are not persuasive.

Applicant also states that the claims recite a technical solution to a technical problem by granting the host computer system access to the merchant wallet.

Examiner respectfully disagrees and notes that granting the host computer system access to the merchant wallet is simply allowing host computer system to communicate with the merchant wallet. The claim does not make it clear as to how this may be considered as a technical solution to a technical problem. The specification does not disclose this to be a technical problem and the claims do not recite any steps that support a technical solution. Thus, these arguments are not persuasive.

With respect to Applicant's arguments regarding the claims are necessarily rooted in computer technology, Examiner notes that simply applying the claimed invention using a computer does not render the claim necessarily rooted in computer technology. In this case, the claimed invention can be carried out in the absence of a computer. The presence of a computer simply applies the abstract idea. Thus, these arguments are not persuasive.

Applicant also states that the claimed host computer system is an unconventional and non-generic computer system that performs an unconventional and non-generic process.

Examiner respectfully disagrees and notes that the host computer system is described in the specification as a general purpose computer ([0014]) and is performing its generic computer functions (MPEP 2106.05(d)). Thus, these arguments are not persuasive.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

shortened statutory period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing

date of the advisory action. In no event, however, will the statutory period for reply expire later than

SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to RAJESH KHATTAR whose telephone number is (571)272-7981. The examiner can

normally be reached on M-F 8AM-5PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a

USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use

the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Shahid Merchant can be reached on 571-270-1360. The fax phone number for the organization where

this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained

from either Private PAIR or Public PAIR. Status information for unpublished applications is available

through Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer

Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR

CANADA) or 571-272-1000.

/RAJESH KHATTAR/
Primary Examiner, Art Unit 3693

REMARKS

The Applicant has amended Claims 64, 68, 73, 77, and 82. Claims 65-67, 70, 74-76, and 79 have been cancelled without prejudice or disclaimer of subject matter. Claims 64, 68, 73, 77, 82, 142 and 143 are pending, of which Claims 64, 73 and 82 are in independent form.

Support for the amendments is provided at least by FIG. 55, and paragraphs [0129]-[0143] of the Specification. Naturally, the claims are not limited by specifics of the embodiments described in the Figures and the Specification, which are merely examples of arrangements that fall within the scope of the claims.

REJECTIONS UNDER §101

Claims 64-68, 70, 73-77, 79, 82 , 142 and 143 were rejected under 35 U.S.C. §101 for allegedly being directed to non-statutory subject matter. Without conceding the correctness of the rejections, and in the interest of advancing prosecution, the claims have been amended in keeping with the agreement reached with the Examiner.

The independent Claims relate to a host computer system communicating with a merchant computer system and a customer computer system to effect payment using a cryptographic key based currency. The host computer system receives a request for payment from the merchant computer system, and transmits a reference code to the merchant computer system as a response to the request for payment. The host computer system receives a URL request from the customer computer system via a URL that includes the reference code. In response to the URL request, the host computer system locks in a first exchange rate. The host computer system converts a first amount in merchant currency to a first amount in cryptographic key based currency using the locked in first exchange rate. The host computer system transmits a user interface to the customer computer system in response to the URL request. The user interface displays the converted first amount in cryptographic key based currency. The user interface also displays a user interface element for transmitting a payment send instruction to the host computer system.

The Claims provide a technical solution to a technical problem of providing a customer computer system that is in communication with a merchant computer system with the ability to pay the merchant by using cryptographic key based currency functionality of the host computer system.

Thus, the claims do not set forth or describe an abstract idea, but rather recite a specific method of interaction a host computer system with a merchant computer system and a customer computer system. Moreover, the claims do not set forth or describe a method of organizing human activity. Furthermore, the claims do not set forth or describe a method relating to commercial or legal interactions. More specifically, at least the steps of transmitting a reference code, creating a URL that includes the reference code, receiving a URL request via the URL, locking in a first exchange rate in response to the URL request, and transmitting a user interface that displays a first amount in cryptographic key based currency and a user interface element for transmitting a send instruction (as recited in the claims) relate to the technical solution to the technical problem described herein.

Additionally, the claims recite a practical application. Specifically, the claims recite an improvement in the functioning of a computer system by initiating steps related to cryptographic key based currency payment in response to a payment request received from a merchant computer system, as recited in the claims. By virtue of the reference code and the URL, the customer computer system can be redirected from the merchant computer system to the host computer system, which performs cryptographic key based currency payment.

Therefore, the claims are believed to be patent eligible, and reconsideration and withdrawal of the rejections under §101 are respectfully requested.

AUTHORIZATION OF INTERNET COMMUNICATIONS
Recognizing that Internet communications are not secure, I hereby authorize the USPTO

to communicate via email (Diana@Schox.com; Shant@Schox.com) concerning any subject matter of this application by electronic mail. I understand that a copy of these communications will be made of record in the application file.

CONCLUSION

In view of the preceding amendments and remarks, the Applicant respectfully submits that Specification, Drawings, and Claims are in order and that all the Claims are now in condition for allowance. If the Examiner believes that personal contact would be advantageous to the disposition of this case, the Applicant respectfully requests that the Examiner contact the Attorney of the Applicant at the earliest convenience of the Examiner.

Respectfully submitted,

Date: _____ 25-NOV-2019 _____   By: _____ /Diana Lin/ _____

Diana Lin
Reg. No. 68,388
Attorney for the Applicant

AMENDMENTS IN THE CLAIMS

Please amend the claims as follows:

1-63. (CANCELLED)

64.   (CURRENTLY AMENDED) A method of effecting payment comprising: with a host computer system that includes a bank transfer module, a wallet management module, and a plurality of cryptographic key based currency wallets including a host wallet and a merchant wallet for a merchant computer system:

receiving, by the host computer system <u>via an API (Application Programmable Interface) of the host computer system</u>, a request for payment from the merchant computer system, including a first amount in a merchant currency, wherein the merchant currency is a currency associated with a merchant;

<u>generating, by the host computer system, a reference code for the request for payment;</u>

<u>creating, by the host computer system, a URL (Uniform Resource Locator) that includes the reference code;</u>

<u>transmitting, by the host computer system, the reference code to the merchant computer system as a response to the request for payment;</u>

<u>receiving, by the host computer system, a URL request from a customer computer system via the URL;</u>

<u>automatically generating, by the host computer system, a cryptographic key based currency address within the merchant wallet for the request for payment;</u>

<u>in response to the URL request,</u> determining, by the host computer system, a first exchange rate between the merchant currency and a cryptographic key based currency, ~~wherein the first exchange rate fluctuates and the first exchange rate is determined~~ at a first moment in time<u>, and locking in the first exchange rate for the customer computer system for a predefined period of time</u>;

converting, by the host computer system, the first amount in the merchant currency to a first amount in cryptographic key based currency using the <u>locked in</u>

2

first exchange rate ~~at the first moment in time~~;

transmitting ~~providing~~, by the host computer system, <u>a user interface to the customer computer system in response to the URL request, wherein the user interface displays</u> ~~an output of~~ the first amount in cryptographic key based currency <u>and displays a user interface element for transmitting a send instruction to the host computer system</u> ~~using the first exchange rate at the first moment of time for display by a customer computer system~~ ~~as a locked-in exchange rate for a predefined period of time~~;

receiving, by the host computer system, [[a]] <u>the</u> send instruction for sending a payment from the customer computer system, wherein the send instruction is at a second moment in time later than the first moment in time and the exchange rate at the second moment in time is a second exchange rate that is different than the first exchange rate at the first moment in time;

with the wallet management module, receiving in the merchant wallet <u>at the cryptographic key based currency address,</u> by the host computer system, payment in cryptographic key based currency from the customer in an amount that is at least the first amount in cryptographic key based currency;

~~determining, by the host computer system, a second exchange rate at the~~ ~~second moment in time;~~

converting, by the host computer system, the first amount in the merchant currency to a second amount in cryptographic key based currency using the second exchange rate at the second moment in time;

providing, by the host computer system, an output of a cryptographic key based replacement cost for display on one or more computer systems, wherein the output of the replacement cost is determined by calculating a difference between the first amount in cryptographic key based currency using the first exchange rate and the second amount in cryptographic key based currency using the second exchange rate; and

in response to receiving the cryptographic key based currency in the merchant wallet:

with the wallet management module, transferring the cryptographic key

based currency from the merchant wallet to the host wallet, and

transmitting, by the bank transfer module, a payment instruction to pay a second amount in merchant currency to the merchant, wherein the second amount in merchant currency paid to the merchant is for an amount that is at least in part based on the first amount in the merchant currency that is converted to cryptographic key based currency at the first moment in time.

65. (CANCELLED)

66. (CANCELLED)

67. (CANCELLED)

68. (CURRENTLY AMENDED) The method of claim 64 [[65]], further comprising:

transmitting, with the host computer system, in response to receiving the send instruction, an order status message to the merchant computer system, the order status message including the reference number.

69. (CANCELLED)

70. (CANCELLED)

71. (CANCELLED)

72. (CANCELLED)

73. (CURENTLY AMENDED) A host computer system for effecting payment comprising:

a processor;

a non-transitory computer readable medium connected to the processor and storing a plurality of cryptographic key based currency wallets including a host

4

wallet and a merchant wallet for a merchant computer system;

a set of instructions on the computer readable medium that are executable by the processor, including:

a wallet management module;

an application programmable interface (API) receiving a request for payment from the merchant computer system, including a first amount in a merchant currency, wherein the merchant currency is a currency associated with a merchant;

a reference code generator generating a reference code for the request for payment;

creating, by the host computer system, a URL that includes the reference code;

transmitting, by the host computer system, the reference code to the merchant computer system as a response to the request for payment;

receiving, by the host computer system, a URL request from a customer computer system via the URL;

automatically generating, by the host computer system, a cryptographic key based currency address within the merchant wallet for the request for payment;

in response to the URL request, a currency converter determining a first exchange rate between the merchant currency and a cryptographic key based currency, ~~wherein the first exchange rate fluctuates and the first exchange rate is determined~~ at a first moment in time, and locking in the first exchange rate for the customer computer system for a predefined period of time,

converting, by the host computer system, the first amount in the merchant currency to a first amount in cryptographic key based currency using the locked in first exchange rate ~~at the first moment in time~~, and

transmitting ~~providing~~, by the host computer system, a user interface to the customer computer system in response to the URL request, wherein the user interface displays ~~an output of~~ the first amount in cryptographic key based currency and a user interface element for transmitting a send instruction to the host computer system ~~using the first exchange rate at the first moment of time for~~

~~display by a customer computer system as a locked in exchange rate for a predefined period of time;~~

a transaction processor receiving [[a]] the send instruction from the customer computer system, wherein the send instruction is at a second moment in time later than the first moment in time and the exchange rate at the second moment in time is a second exchange rate that is different than the first exchange rate at the first moment in time,

with the wallet management module, receiving, in the merchant wallet at the cryptographic key based currency address, a payment in cryptographic key based currency from the customer in an amount that is at least the first amount in cryptographic key based currency that was converted using the first exchange rate, and transferring the cryptographic key based currency from the merchant wallet to the host wallet,

~~determining a second exchange rate at the second moment in time,~~

converting the first amount in the merchant currency to a second amount in cryptographic key based currency using the second exchange rate at the second moment in time, and

providing an output of a cryptographic key based replacement cost for display on one or more computer systems, wherein the output of the replacement cost is determined by calculating a difference between the first amount in cryptographic key based currency using the first exchange rate and the second amount in cryptographic key based currency using the second exchange rate; and

a bank transfer module transmitting, in response to transferring the cryptographic key based currency from the merchant wallet to the host wallet, a payment instruction to pay a second amount in merchant currency to the merchant, wherein the second amount in merchant currency paid to the merchant is for an amount that is at least in part based on the first amount in the merchant currency that is converted to cryptographic key based currency at the first moment in time.

74.   (CANCELLED)

75. (CANCELLED)

76. (CANCELLED)

77. (CURRENTLY AMENDED) The host computer system of claim 73 [[74]], wherein the API transmits, in response to receiving the send instruction, an order status message to the merchant computer system, the order status message including the reference number.

78. (CANCELLED)

79. (CANCELLED)

80. (CANCELLED)

81. (CANCELLED)

82. (CURRENTLY AMENDED) A non-transitory computer-readable medium having stored thereon a set of instructions that are executable by a processor of a host computer system to carry out a method of transacting cryptographic key based currency comprising:

    receiving, by the host computer system via an API of the host computer system, a request for payment from a merchant computer system, including a first amount in a merchant currency, wherein the merchant currency is a currency associated with a merchant;

    generating, by the host computer system, a reference code for the request for payment;

    creating, by the host computer system, a URL that includes the reference code;

transmitting, by the host computer system, the reference code to the merchant computer system as a response to the request for payment;

receiving, by the host computer system, a URL request from a customer computer system via the URL;

automatically generating, by the host computer system, a cryptographic key based currency address within the merchant wallet for the request for payment;

in response to the URL request, determining, by the host computer system, a first exchange rate between the merchant currency and a cryptographic key based currency, ~~wherein the first exchange rate fluctuates and the first exchange rate is determined~~ at a first moment in time, and locking in the first exchange rate for the customer computer system for a predefined period of time;

converting, by the host computer system, the first amount in the merchant currency to a first amount in cryptographic key based currency using the locked in first exchange rate ~~at the first moment in time~~;

transmitting ~~providing~~, by the host computer system, a user interface to the customer computer system in response to the URL request, wherein the user interface displays ~~an output of~~ the first amount in cryptographic key based currency and displays a user interface element for transmitting a send instruction to the host computer system ~~using the first exchange rate at the first moment of time for display by a customer computer system as a locked in exchange rate for a predefined period of time~~;

receiving, by the host computer system, [[a]] the send instruction from the customer computer system, wherein the send instruction is at a second moment in time later than the first moment in time and the exchange rate at the second moment in time is a second exchange rate that is different than the first exchange rate at the first moment in time;

with a wallet management module included in the host computer system, receiving in a merchant wallet for the merchant computer system, at the cryptographic key based currency address, by the host computer system, payment in cryptographic key based currency from the customer in an amount that is at least

the first amount in cryptographic key based currency that was converted using the first exchange rate, and transferring the cryptographic key based currency from the merchant wallet to a host wallet, wherein the host computer system includes the merchant wallet and the host wallet;

~~determining, by the host computer system, a second exchange rate at the second moment in time;~~

converting, by the host computer system, the first amount in the merchant currency to a second amount in cryptographic key based currency using the second exchange rate at the second moment in time;

providing, by the host computer system, an output of a cryptographic key based replacement cost for display on one or more computer systems, wherein the output of the replacement cost is determined by calculating a difference between the first amount in cryptographic key based currency using the first exchange rate and the second amount in cryptographic key based currency using the second exchange rate; and

transmitting, by using a bank transfer module included in the host computer system, in response to transferring the cryptographic key based currency from the merchant wallet to the host wallet ~~receiving the send instruction from the customer computer system~~, a payment instruction to pay a second amount in merchant currency to the merchant, wherein the second amount in merchant currency paid to the merchant is for an amount that is at least in part based on the first amount in the merchant currency that is converted to cryptographic key based currency at the first moment in time.

83-141. (Cancelled)

142.   (PREVIOUSLY PRESENTED) The method of claim 64,
        wherein the wallet management module manages the merchant wallet and the host wallet,
        wherein receiving cryptographic key based currency from the customer in the

merchant wallet comprises: with the wallet management module, recording a transfer of the cryptographic key based currency from the customer in the merchant wallet, and

wherein transferring the cryptographic key based currency from the merchant wallet to the host wallet comprises: with the wallet management module, recording a transfer of the cryptographic key based currency from the merchant wallet to the host wallet.

143. (PREVIOUSLY PRESENTED) The method of claim 64, wherein the wallet management module transfers the cryptographic key based currency from the merchant wallet to the host wallet by broadcasting a message to a Bitcoin network.