

ELECTRONIC APPARATUS AND OPERATION METHOD THEREOF

Technical Field

[0001] This disclosure relates to an electronic apparatus for e-commerce and an operation method thereof.

5 Background Art

[0002] E-commerce, where buyers and sellers may access online shopping malls through terminals to buy and sell products in real time, has been actively conducted. In particular, the e-commerce may be operated in a manner that a seller receiving order information of a buyer from an online shopping mall requests a delivery company to
10 deliver ordered products. The seller may upload waybill information of the delivery to the online shopping mall. In such cases, an authenticity of the uploaded waybill information should be verified.

Disclosure of Invention

Technical Goals

15 [0003] An aspect provides an electronic apparatus and an operation method thereof. Technical goals to be achieved through the example embodiments are not limited to the technical goals as described above, and other technical tasks can be inferred from the following example embodiments.

Technical solutions

20 [0004] According to a first embodiment, there is provided an operation method of an electronic apparatus for e-commerce, the method including acquiring, from a buyer terminal, buyer information accompanying an order and a delivery request of an item, acquiring waybill information of the item from a seller terminal acquiring the buyer information, and verifying whether the waybill information is authentic by acquiring
25 at least one of verification waybill information corresponding to the buyer

information and verification buyer information corresponding to the waybill information from a logistics support server.

[0005] According to a second embodiment, there is also provided an electronic apparatus for e-commerce, the apparatus including a communication device and a controller.

5 The communication device is configured to acquire, from a buyer terminal, buyer information accompanying an order and a delivery request of an item, acquire waybill information of the item from a seller terminal acquiring the buyer information, and acquire at least one of verification waybill information corresponding to the buyer information and verification buyer information corresponding to the waybill information from a logistics support server. The controller is configured to verify
10 whether the waybill information is authentic using at least one of the verification waybill information and the verification buyer information.

[0006] According to a third embodiment, there is also provided a computer program

embodied on a non-transitory computer readable medium in combination with
15 hardware to implement a method of verifying an authenticity of waybill information, the method including acquiring, from a buyer terminal, buyer information accompanying an order and a delivery request of an item, acquiring waybill information of the item from a seller terminal acquiring the buyer information, and verifying whether the waybill information is authentic by acquiring at least one of
20 verification waybill information corresponding to the buyer information and verification buyer information corresponding to the waybill information from a logistics support server.

[0007] According to a fourth embodiment, there is also provided a non-volatile

computer-readable recording medium including a computer program for performing
25 the above-described method.

[0008] Specific details of example embodiments are included in the detailed description and drawings.

Effects

[0009] According to example embodiments, an electronic apparatus may verify whether
5 waybill information of an item acquired from a seller terminal is authentic and thus, may selectively process only reliable waybill information instead of false information. For example, the electronic apparatus may prevent a seller's action that transmits false waybill information to the electronic apparatus.

[0010] Further, the electronic apparatus may provide only reliable waybill information
10 to a buyer instead of false information, thereby improving buyer's convenience. For example, since the buyer may not track a delivery using a false waybill number, the electronic apparatus may provide only reliable waybill information to the buyer, thereby increasing the buyer's convenience. Also, the electronic apparatus may update the delivery status only when an authenticity of the waybill information is
15 verified instead of updating the delivery status immediately when the waybill information is transmitted from the seller terminal, which may improve the buyer's convenience.

[0011] Effects are not limited to the aforementioned effects, and other effects not
20 mentioned will be clearly understood by those skilled in the art from the description of the claims.

Brief Description of Drawings

[0012] FIG. 1 illustrates an e-commerce system according to an example embodiment.

[0013] FIG. 2 illustrates an operation method of an electronic apparatus according to an example embodiment.

25 [0014] FIG. 3 illustrates an electronic apparatus verifying whether waybill information

is authentic according to an example embodiment.

[0015] FIG. 4 illustrates an electronic apparatus verifying whether waybill information is authentic according to another example embodiment.

[0016] FIG. 5 illustrates an electronic apparatus verifying whether waybill information is authentic according to still another example embodiment.

[0017] FIG. 6 illustrates an electronic apparatus verifying whether waybill information is authentic in detail according to an example embodiment.

[0018] FIG. 7 illustrates an operation method of an electronic apparatus according to another example embodiment.

[0019] FIG. 8 illustrates an electronic apparatus operating based on an authenticity verification result according to an example embodiment.

[0020] FIG. 9 is a block diagram illustrating an electronic apparatus.

Mode for Carrying Out the Invention

[0021] Terms used in the embodiments are selected, as much as possible, from general terms that are widely used at present while taking into consideration the functions obtained in accordance with the present disclosure, but these terms may be replaced by other terms based on intentions of those skilled in the art, customs, emergence of new technologies, or the like. Also, in a particular case, terms that are arbitrarily selected by the applicant of the present disclosure may be used. In this case, the meanings of these terms may be described in corresponding description parts of the disclosure. Accordingly, it should be noted that the terms used herein should be construed based on practical meanings thereof and the whole content of this specification, rather than being simply construed based on names of the terms.

[0022] In the entire specification, when an element is referred to as "including" another element, the element should not be understood as excluding other elements so long

as there is no special conflicting description, and the element may include at least one other element. In addition, the terms "unit" and "module", for example, may refer to a component that exerts at least one function or operation, and may be realized in hardware or software, or may be realized by combination of hardware and software.

[0023] The expression "at least one of A, B, and C" may include the following meanings: A alone; B alone; C alone; both A and B together; both A and C together; both B and C together; and all three of A, B, and C together.

[0024] In the present disclosure, a "terminal" may be implemented as a computer or a portable terminal capable of accessing a server or another terminal through a network. Here, the computer may include, for example, a laptop computer, a desktop computer, and a notebook equipped with a web browser. The portable terminal may be a wireless communication device ensuring a portability and a mobility, and include any type of handheld wireless communication device, for example, a tablet PC, a smartphone, a communication-based terminal such as international mobile telecommunication (IMT), code division multiple access (CDMA), W-code division multiple access (W-CDMA), and long term evolution (LTE).

[0025] In the following description, embodiments of the present disclosure will be described in detail with reference to the drawings so that those skilled in the art can easily carry out the present disclosure. The present disclosure may be embodied in many different forms and is not limited to the embodiments described herein.

[0026] Hereinafter, example embodiments of the present disclosure will be described with reference to the drawings.

[0027] FIG. 1 illustrates an e-commerce system according to an example embodiment.

[0028] Referring to FIG. 1, an e-commerce system 1 may include an electronic apparatus

10, a buyer terminal 20, a seller terminal 30, and a logistics support server 40. FIG. 1 illustrates only components of the e-commerce system 1 related to the present embodiment. However, it is obvious to those skilled in the art that other general-purpose components may be further included in the e-commerce system 1 in addition to the components illustrated in FIG. 1.

[0029] The electronic apparatus 10, the buyer terminal 20, the seller terminal 30, and the logistics support server 40 may communicate with one another in a network 50. The network 50 may include any one or combinations of a local area network (LAN), a wide area network (WAN), a value added network (VAN), a mobile radio communication network, and a satellite communications network. Also, the network is a comprehensive data communication network that allows network components to smoothly communicate with each other, and may include a wired Internet, a wireless Internet, and a mobile wireless communication network. The wireless communication may be, for example, wireless fidelity (Wi-Fi) LAN, BluetoothTM, Bluetooth low energy, ZigBee, Wi-Fi direct (WFD), ultra wideband (UWB), infrared Data Association (IrDA) communication, and near field communication (NFC) but not is limited thereto.

[0030] The electronic apparatus 10 may provide a platform for an e-commerce service. Specifically, the electronic apparatus 10 may provide an application for an e-commerce service to the buyer terminal 20 or the seller terminal 30. The electronic apparatus 10 may execute the application to provide the e-commerce service through the buyer terminal 20 or the seller terminal 30 connected with the electronic apparatus 10. For example, the electronic apparatus 10 may be included in a server providing the e-commerce service.

[0031] The buyer terminal 20 may receive buyer information accompanying an order

and a delivery request of an item to be purchased by a buyer. Specifically, the buyer terminal 20 may provide the buyer with a user interface displayed through the application. The buyer may input order information of the item and buyer information accompanying the delivery request of the item to the buyer terminal 20 based on the user interface. The order information and the buyer information input to the buyer terminal 20 may be transmitted to the electronic apparatus 10.

[0032] The seller terminal 30 may acquire the buyer information accompanying the order and the delivery request of the item. Specifically, the seller terminal 30 may receive the order information of the item and the buyer information from the electronic apparatus 10. A seller may acquire waybill information of the item from a delivery company to process the order and delivery of the item. For example, the seller may send a request for the delivery of the item to a delivery company server through the seller terminal 30. In this example, the seller terminal 30 may acquire the waybill information of the item from the delivery company server. However, in some cases, a malicious seller may upload, to the electronic apparatus 10, waybill information that is not actually issued by a delivery company or waybill information issued for another existing item.

[0033] The electronic apparatus 10 may acquire the waybill information of the ordered and delivery-requested item from the seller terminal 30 and verify whether the waybill information is authentic. As described above, because the seller may upload false waybill information to the electronic apparatus 10 through the seller terminal 30 in some cases, the electronic apparatus 10 may verify whether the waybill information is issued by an actual delivery company for an item ordered and delivery-requested by a buyer.

[0034] The electronic apparatus 10 may acquire at least one of verification waybill

information corresponding to the buyer information and verification buyer information corresponding to the waybill information from the logistics support server 40. Also, the electronic apparatus 10 may verify whether the waybill information is authentic through a comparison between the verification waybill information and the waybill information or a comparison between the verification buyer information and the buyer information. Related examples will be further described in detail with reference to the drawings below.

[0035] The logistics support server 40 may be a server for providing a detailed delivery service or a logistics service, and may process waybill information of an item or delivery status information of the item. As an example, the logistics support server 40 may be a server for providing a logistics service such as a third party logistics. The logistics support server 40 may acquire the waybill information of the item ordered by the buyer, the buyer information accompanying the delivery request, and delivery tracking information of the item from delivery company servers and transmit the acquired information to the electronic apparatus 10. As another example, the logistics support server 40 may include delivery company servers. In this example, the logistics support server 40 may generate waybill information and delivery tracking information based on buyer information of an item in response to a delivery request of a seller and transmit the generated information to the electronic apparatus 10.

[0036] FIG. 2 illustrates an operation method of an electronic apparatus according to an example embodiment.

[0037] In operation S210, the electronic apparatus 10 may acquire buyer information accompanying an order and a delivery request of an item from a buyer terminal.

[0038] A buyer may order an item through a buyer terminal and request a delivery of the

item. Also, the buyer may input buyer information to the buyer terminal. The buyer information may include personal information such as a name, a phone number, and an address of the buyer. The buyer information may also include information on a shipping address in which the buyer wants to receive the item. For example, the buyer information may be information on a zip code of the shipping address. The buyer terminal may transmit the buyer information and information on the order and the delivery request of the item to the electronic apparatus 10.

[0039] In operation S220, the electronic apparatus 10 may acquire waybill information of the item from a seller terminal acquiring the buyer information.

[0040] The electronic apparatus 10 may transmit the buyer information and the information on the order and the delivery request of the item acquired from the buyer terminal to the seller terminal. In response to the order and the delivery request of the item, the seller terminal may transmit the waybill information for the delivery of the item to the electronic apparatus 10. For example, the seller may input the waybill information based on a user interface displayed on the seller terminal so that the input waybill information is uploaded to the electronic apparatus 10. The waybill information may include information on matters related to transportation of the item. For example, the waybill information may include a waybill number which is a unique number of a waybill.

[0041] In operation S230, the electronic apparatus 10 may verify whether the waybill information is authentic by acquiring at least one of verification waybill information corresponding to the buyer information and verification buyer information corresponding to the waybill information from a logistics support server. In other words, the electronic apparatus 10 may verify whether waybill information acquired from the seller terminal is false information or whether the waybill information is

reliable information using at least one of the verification waybill information and the verification buyer information. As an example, the electronic apparatus 10 may verify whether waybill information acquired from the seller terminal is waybill information not actually issued by a delivery company. As another example, the
5 electronic apparatus 10 may verify whether waybill information acquired from the seller terminal is waybill information issued for another existing item.

[0042] In an example, the electronic apparatus 10 may acquire the verification buyer information corresponding to the waybill information from the logistics support server, and verify whether the waybill information acquired from the seller terminal
10 is authentic by comparing the verification buyer information and the buyer information acquired from the buyer terminal. Specifically, the electronic apparatus 10 may transmit the waybill information acquired from the seller terminal to the logistics support server, and acquire the verification buyer information corresponding to the transmitted waybill information from the logistics support server. When the
15 verification buyer information and the buyer information acquired from the buyer terminal match each other, the electronic apparatus 10 may determine that the waybill information acquired from the seller terminal is reliable information instead of false information. In contrast, when the verification buyer information and the buyer information acquired from the buyer terminal do not match each other, the electronic
20 apparatus 10 may determine that the waybill information acquired from the seller terminal is false information.

[0043] The electronic apparatus 10 may acquire time point information associated with the verification buyer information from the logistics support server in addition to the verification buyer information corresponding to the waybill information. Also, the
25 electronic apparatus 10 may verify whether the waybill information is authentic

based on a result of comparison between the buyer information and the verification
buyer information and whether the time point information associated with the
verification buyer information is appropriate. Specifically, when the buyer
information matches the verification buyer information, and when a point in time
5 associated with the verification buyer information is within a predetermined period
of time, the electronic apparatus 10 may determine that the waybill information is
reliable information. In contrast, even if the buyer information matches the
verification buyer information, when a point in time associated with the verification
buyer information is beyond the predetermined period of time, the electronic
10 apparatus 10 may determine that the waybill information is false information. The
time point information associated with the verification buyer information may
include at least one of information on a point in time at which the logistics support
server acquires the verification buyer information, information on a point in time at
which the verification buyer information is stored in a database, and information on
15 a point in time at which a delivery company receives an item delivery request along
with the verification buyer information, but is not limited thereto.

[0044] In another example, the electronic apparatus 10 may acquire the verification
waybill information corresponding to the buyer information from the logistics
support server. Also, the electronic apparatus 10 may verify whether the waybill
20 information acquired from the seller terminal is authentic by comparing the waybill
information acquired from the seller terminal and the verification waybill
information. Specifically, the electronic apparatus 10 may transmit the buyer
information acquired from the buyer terminal to the logistics support server, and
acquire the verification waybill information corresponding to the buyer information
25 from the logistics support server. Also, when the waybill information acquired from

the seller terminal matches the verification waybill information, the electronic apparatus 10 may determine that the waybill information acquired from the seller terminal is reliable information instead of false information. In contrast, when the waybill information acquired from the seller terminal does not match the verification waybill information, the electronic apparatus 10 may determine that the waybill information acquired from the seller terminal is false information.

[0045] The electronic apparatus 10 may acquire time point information associated with the verification waybill information from the logistics support server in addition to the verification waybill information corresponding to the buyer information. Also, the electronic apparatus 10 may verify whether the waybill information is authentic based on a result of comparison between the waybill information and the verification waybill information and whether time point information associated with the verification waybill information is appropriate. Specifically, when the waybill information matches the verification waybill information, and when a point in time associated with the verification waybill information is within a predetermined period of time, the electronic apparatus 10 may determine that the waybill information is reliable information. In contrast, even if the waybill information matches the verification waybill information, when a point in time associated with the verification waybill information is beyond a predetermined period of time, the electronic apparatus 10 may determine that the waybill information is false information. The time point information associated with the verification waybill information may include at least one of information on a point in time at which the logistics support server acquires the verification waybill information, information on a point in time at which the verification waybill information is stored in a database, and information on a point in time at which a delivery company issues the verification waybill

information, but is not limited thereto.

[0046] In still another example, the electronic apparatus 10 may store the buyer information acquired from the buyer terminal and the waybill information acquired from the seller terminal in a database by matching each other. Thereafter, the electronic apparatus 10 may acquire, from the logistics support server, the verification waybill information corresponding to the buyer information and the verification buyer information corresponding to the waybill information. The electronic apparatus 10 may determine whether the stored buyer information and waybill information match the acquired verification buyer information and verification waybill information, thereby verifying whether the waybill information is authentic.

[0047] In yet another example, even if the waybill information acquired from the seller terminal or the buyer information acquired from the buyer terminal is not transmitted to the logistics support server, the electronic apparatus 10 may receive the actually issued waybill information from the logistics support server as the verification waybill information and receive the buyer information corresponding to the actually issued waybill information as the verification buyer information. Through this, the electronic apparatus 10 may verify whether the waybill information is authentic using at least one of the received verification buyer information and verification waybill information.

[0048] In further another example, the electronic apparatus 10 may transmit the buyer information acquired from the buyer terminal and the waybill information acquired from the seller terminal to the logistics support server, thereby request the logistics support server to verify whether the waybill information is authentic. The logistics support server may verify whether the waybill information is authentic using the

verification buyer information or the verification waybill information acquired from a delivery company server. The electronic apparatus 10 may receive a waybill authenticity verification result from the logistics support server.

5 **[0049]** The electronic apparatus 10 may verify whether the waybill information acquired from the seller terminal is authentic based on a predetermined period of time. For example, the electronic apparatus 10 may verify whether each of a plurality of pieces of the waybill information acquired from the seller terminal is authentic, at intervals of the predetermined period of time.

10 **[0050]** As such, the electronic apparatus 10 may verify whether the waybill information of the item acquired from the seller terminal is authentic. Through this, the electronic apparatus 10 may selectively process only the reliable waybill information instead of false information. For example, the electronic apparatus 10 may prevent a seller's action that transmits false waybill information to the electronic apparatus 10.

15 **[0051]** FIG. 3 illustrates an electronic apparatus verifying whether waybill information is authentic according to an example embodiment.

20 **[0052]** In operation S302, a buyer terminal 310 may acquire item order information and buyer information. Specifically, the buyer terminal 310 may receive, from a buyer, the item order information associated with an order and a delivery request of an item and buyer information accompanying the delivery request.

[0053] In operation S304, the buyer terminal 310 may transmit the item order information and the buyer information acquired in operation S302 to an electronic apparatus 300.

25 **[0054]** In operation S306, the electronic apparatus 300 may transmit the item order information and the buyer information acquired from the buyer terminal 310 to a

seller terminal 320.

[0055] In operation S308, the seller terminal 320 may acquire waybill information of the ordered and delivery-requested item. For example, the seller terminal 320 may acquire the waybill information of the item based on an input of a seller.

5 **[0056]** In operation S312, the seller terminal 320 may transmit the waybill information of the item to the electronic apparatus 300.

[0057] In operation S314, the electronic apparatus 300 may transmit the waybill information transmitted by the seller terminal 320 in operation S312 to a logistics support server 330. The electronic apparatus 300 may request verification buyer information corresponding to the waybill information from the logistics support server 330. In addition, the electronic apparatus 300 may request the verification buyer information and time point information associated with the verification buyer information from the logistics support server 330. Also, the electronic apparatus 300 may request delivery tracking information of the item from the logistics support server 330. The delivery tracking information may include information on a delivery status such as a delivery state of the item or a current location of the item.

[0058] In operation S316, the logistics support server 330 may acquire the verification buyer information corresponding to the waybill information transmitted from the electronic apparatus 300. In an example, the logistics support server 330 may request, from the delivery company server, the verification buyer information corresponding to the waybill information transmitted from the electronic apparatus 300 and acquire the verification buyer information from the delivery company server. Also, the logistics support server 330 may acquire the time point information associated with the verification buyer information from the delivery company server along with the verification buyer information. The delivery company server may

acquire the buyer information in response to an item delivery request, generate the waybill information matching the buyer information, and provide the generated waybill information. The delivery company server may store the waybill information and the buyer information matching each other in an internal database as the verification waybill information and the verification buyer information matching each other. Also, the delivery company server may store the time point information associated with the verification waybill information and the time point information associated with the verification buyer information in the internal database. In another example, the logistics support server 330 may include the delivery company server. In this example, the logistics support server 330 may generate the waybill information based on the buyer information transmitted when requesting the delivery of the item and store the buyer information and the waybill information matching each other in the internal database as the verification buyer information and the verification waybill information. The logistics support server 330 may search the internal database, thereby acquiring the buyer information matching the waybill information transmitted from the electronic apparatus 300 as the verification buyer information. Likewise, the logistics support server 330 may store the time point information associated with the verification waybill information and the time point information associated with the verification buyer information in the internal database. Thus, the logistics support server 330 may search the internal database and acquire the time point information associated with the verification buyer information.

[0059] In operation S318, the logistics support server 330 may transmit the verification buyer information corresponding to the waybill information to the electronic apparatus 300. Also, the logistics support server 330 may transmit the verification

buyer information and the time point information associated with the verification buyer information to the electronic apparatus 300. When the verification buyer information corresponding to the waybill information is absent, the logistics support server 330 may transmit information indicating that the verification buyer information is absent to the electronic apparatus 300. For example, when the seller has not provided the buyer information to the delivery company to receive an actual waybill number, the verification buyer information corresponding to the waybill information may be absent.

[0060] In operation S322, the electronic apparatus 300 may verify whether the waybill information transmitted from the seller terminal 320 is authentic by comparing the verification buyer information transmitted from the logistics support server 330 and the buyer information transmitted from the buyer terminal 310. For example, the electronic apparatus 300 may verify whether the waybill information is authentic based on matching or non-matching between a first zip code corresponding to the verification buyer information and a second zip code corresponding to the buyer information. Also, when the verification buyer information corresponding to the waybill information is absent, the electronic apparatus 300 may determine that the waybill information transmitted from the seller terminal 320 is false information.

[0061] The electronic apparatus 300 may verify whether the waybill information transmitted from the seller terminal 320 is authentic based on a result of comparison between the verification buyer information and the buyer information and whether the time point information associated with the verification buyer information is appropriate. For example, even if the verification buyer information matches the buyer information, when a point in time at which the verification buyer information is stored in the database is not within a last week, the electronic apparatus 300 may

determine that the waybill information is false information.

[0062] FIG. 4 illustrates an electronic apparatus verifying whether waybill information is authentic according to an example embodiment.

[0063] In operation S402, a buyer terminal 410 may acquire item order information and
5 buyer information. Specifically, the buyer terminal 410 may receive, from a buyer, the item order information associated with an order and a delivery request of an item and buyer information accompanying the delivery request.

[0064] In operation S404, the buyer terminal 410 may transmit the item order
10 information and the buyer information acquired in operation S402 to an electronic apparatus 400.

[0065] In operation S406, the electronic apparatus 400 may transmit the item order information and the buyer information acquired from the buyer terminal 410 to a seller terminal 420.

[0066] In operation S408, the seller terminal 420 may acquire waybill information of the
15 ordered and delivery-requested item. For example, the seller terminal 420 may acquire the waybill information of the item based on an input of a seller.

[0067] In operation S412, the seller terminal 420 may transmit the waybill information of the item to the electronic apparatus 400.

[0068] In operation S414, the electronic apparatus 400 may transmit the buyer
20 information transmitted by the buyer terminal 410 in operation S404 to a logistics support server 430. The electronic apparatus 400 may request verification waybill information corresponding to the buyer information from the logistics support server 430. In addition, the electronic apparatus 400 may request the verification waybill information and time point information associated with the verification waybill
25 information from the logistics support server 430. Also, the electronic apparatus

400 may request delivery tracking information of the item from the logistics support server 430. The delivery tracking information may include information on a delivery status such as a delivery state of the item or a current location of the item.

[0069] In operation S416, the logistics support server 430 may acquire the verification

5 waybill information corresponding to the buyer information transmitted from the electronic apparatus 400. In an example, the logistics support server 430 may request, from the delivery company server, the verification waybill information corresponding to the buyer information transmitted from the electronic apparatus 400 and acquire the verification waybill information from the delivery company server.

10 Also, the logistics support server 330 may acquire time point information associated with the verification waybill information from the delivery company server along with the verification waybill information. The delivery company server may acquire the buyer information in response to an item delivery request, generate the waybill information corresponding to the buyer information, and provide the waybill

15 information. The delivery company server may store the waybill information and the buyer information matching each other in an internal database as the verification waybill information and the verification buyer information matching each other.

Also, the delivery company server may store the time point information associated with the verification waybill information and the time point information associated

20 with the verification buyer information in the internal database. In another example, the logistics support server 430 may include the delivery company server. In this example, the logistics support server 430 may generate the waybill information based on the buyer information transmitted when requesting the delivery of the item and store the buyer information and the waybill information matching each other in the

25 internal database as the verification buyer information and the verification waybill

information. The logistics support server 430 may search the internal database, thereby acquiring the waybill information matching the buyer information transmitted from the electronic apparatus 400 as the verification waybill information. Likewise, the logistics support server 430 may store the time point information associated with the verification waybill information and the time point information associated with the verification buyer information in the internal database. Thus, the logistics support server 430 may search the internal database and acquire the time point information associated with the verification waybill information.

[0070] In operation S418, the logistics support server 430 may transmit the verification waybill information corresponding to the buyer information to the electronic apparatus 400. Also, the logistics support server 430 may transmit the verification waybill information and the time point information associated with the verification waybill information to the electronic apparatus 400. When the verification waybill information corresponding to the buyer information is absent, the logistics support server 430 may transmit information indicating that the verification waybill information is absent to the electronic apparatus 400. For example, when the delivery company has not actually issued a waybill number for the seller, a verification waybill number corresponding to the buyer information may be absent.

[0071] In operation S422, the electronic apparatus 400 may verify whether the waybill information transmitted from the seller terminal 420 is authentic by comparing the verification waybill information transmitted from the logistics support server 430 and the waybill information transmitted from the seller terminal 420. For example, the electronic apparatus 400 may verify whether the waybill information is authentic based on matching or non-matching between a first waybill number corresponding to the verification waybill information and a second waybill number corresponding

to the waybill information. Also, when the verification waybill information corresponding to the buyer information is absent, the electronic apparatus 400 may determine that the waybill information transmitted from the seller terminal 420 is false information.

5 **[0072]** The electronic apparatus 400 may verify whether the waybill information transmitted from the seller terminal 420 is authentic based on a result of comparison between the verification waybill information and the waybill information and whether the time point information associated with the verification waybill information is appropriate. For example, even if the verification waybill
10 information matches the waybill information, when a point in time at which the verification waybill information is issued is not within last two months, the electronic apparatus 400 may determine that the waybill information is false information.

[0073] FIG. 5 illustrates an electronic apparatus verifying whether waybill information is authentic according to still another example embodiment.

15 **[0074]** In operation S502, a buyer terminal 510 may acquire item order information and buyer information. Specifically, the buyer terminal 510 may receive, from a buyer, the item order information associated with an order and a delivery request of an item and buyer information accompanying the delivery request.

[0075] In operation S504, the buyer terminal 510 may transmit the item order
20 information and the buyer information acquired in operation S502 to an electronic apparatus 500.

[0076] In operation S506, the electronic apparatus 500 may transmit the item order information and the buyer information acquired from the buyer terminal 510 to a seller terminal 520.

25 **[0077]** In operation S508, the seller terminal 520 may acquire waybill information of the

ordered and delivery-requested item. For example, the seller terminal 520 may acquire the waybill information of the item based on an input of a seller.

[0078] In operation S512, the seller terminal 520 may transmit the waybill information of the item to the electronic apparatus 500.

5 **[0079]** In operation S514, the electronic apparatus 500 may request a logistics support server 530 to verify whether the waybill information transmitted from the seller terminal 520 is authentic. Specifically, the electronic apparatus 500 may transmit the buyer information transmitted from the buyer terminal 510 and the waybill information transmitted from the seller terminal 520 to the logistics support server
10 530 and request the logistics support server 530 to verify whether the waybill information is authentic.

[0080] In operation S516, the logistics support server 530 may verify whether the waybill information is authentic based on the buyer information and the waybill information transmitted from the electronic apparatus 500. In an example, the
15 logistics support server 530 may request verification buyer information corresponding to the waybill information from a delivery company server and acquire the verification buyer information from the delivery company server. Thereafter, the logistics support server 530 may verify whether the waybill information is authentic by comparing the buyer information and the verification buyer information.
20 In another example, the logistics support server 530 may request verification waybill information corresponding to the buyer information from the delivery company server and acquire the verification waybill information from the delivery company server. Thereafter, the logistics support server 530 may verify whether the waybill information is authentic by comparing the waybill information and the verification
25 waybill information. In still another example, the logistics support server 530 may

store actually generated waybill information and buyer information corresponding to the actually generated waybill information in an internal database. In this example, the logistics support server 530 may retrieve the verification buyer information corresponding to the waybill information or the verification waybill information corresponding to the buyer information from the internal database. The logistics support server 530 may verify whether the waybill information is authentic based on the retrieved verification buyer information or the retrieved verification waybill information.

[0081] In operation S518, the logistics support server 530 may transmit an authenticity verification result of the waybill information to the electronic apparatus 500. The electronic apparatus 500 may verify whether the waybill information is authentic based on the authenticity verification result transmitted from the logistics support server 530.

[0082] FIG. 6 illustrates an electronic apparatus verifying whether waybill information is authentic in detail according to an example embodiment.

[0083] An electronic apparatus 600 may acquire information 605 on an order and a delivery request of an item from a buyer terminal 610. The information 605 may include buyer information 615 accompanying the order and the delivery request of the item. For example, as illustrated in FIG. 6, the information 605 may include the buyer information 615 such as a zip code "XXXX" of a shipping address.

[0084] The electronic apparatus 600 may transmit the information 605 to a seller terminal 620, and then acquire waybill information 625 of the ordered and delivery-requested item from the seller terminal 620. For example, as illustrated in FIG. 6, the waybill information 625 may include a waybill number "YYYY" of an ordered and delivery-requested item A.

[0085] The electronic apparatus 600 may transmit the waybill information 625 to a logistics support server 630 to verify whether the waybill information 625 acquired from the seller terminal 620 is authentic.

[0086] The logistics support server 630 may search a delivery information database (DB) 640 to acquire verification buyer information 635 corresponding to the waybill information 625. Specifically, the delivery information DB 640 may store previously issued waybill information and buyer information corresponding to the previously issued waybill information. Also, the delivery information DB 640 may include time point information associated with the previously issued waybill information. For example, when requesting a delivery company to deliver an item, a seller may transmit buyer information to the delivery company, so that the delivery company generates waybill information of the item based on the buyer information. In this example, the waybill information and the buyer information matching each other may be stored in the delivery information DB 640. Also, a timestamp that is information on a point in time at which the waybill information is generated may be stored in the delivery information DB 640 through matching to the waybill information and the buyer information. The logistics support server 630 may search the delivery information DB 640 and acquire the verification buyer information 635 corresponding to the waybill information 625. In the example of FIG. 6, the logistics support server 630 may acquire a zip code "BBBB" corresponding to "YYYY" which is the waybill information 625 as the verification buyer information 635. Also, the logistics support server 630 may acquire a timestamp "TTTT" that is a point in time at which the verification buyer information 635 is stored, as time point information 637. Although FIG. 6 illustrates that the delivery information DB 640 is not included in the logistics support server 630 as an example, the delivery

information DB 640 may be included in the logistics support server 630 in some cases and the delivery information DB 640 may be included in the delivery company server generating the waybill information in some other cases.

[0087] The logistics support server 630 may transmit the verification buyer information

5 635 corresponding to the waybill information 625 to the electronic apparatus 600.

The logistics support server 630 may transmit the time point information 637 associated with the verification buyer information 635 to the electronic apparatus 600 in addition to the verification buyer information 635.

[0088] The electronic apparatus 600 may verify whether the waybill information 625

10 transmitted from the seller terminal 620 is authentic by comparing the verification

buyer information 635 transmitted from the logistics support server 630 and the buyer information 615 transmitted from the buyer terminal 610. In the example of FIG.

6, when the buyer information 615 "XXXX" matches the verification buyer information 635 "BBBB", the electronic apparatus 600 may determine that the

15 waybill information 625 is reliable information instead of false information. In

contrast, when the buyer information 615 "XXXX" does not match the verification buyer information 635 "BBBB", the electronic apparatus 600 may determine that the waybill information 625 is false information.

[0089] Even if the buyer information 615 "XXXX" matches the verification buyer

20 information 635 "BBBB", when the time point information 637 "TTTT" associated

with the verification buyer information 635 is not within a last month, the electronic apparatus 600 may determine that the waybill information 625 is false information.

In contrast, when the buyer information 615 "XXXX" matches the verification buyer information 635 "BBBB", and when the time point information 637 "TTTT"

25 associated with the verification buyer information 635 is within a last week, the

electronic apparatus 600 may determine that the waybill information 625 is reliable information instead of false information.

[0090] FIG. 7 illustrates an operation method of an electronic apparatus according to another example embodiment.

5 **[0091]** In operation S710, an electronic apparatus 10 may acquire buyer information accompanying an order and a delivery request of an item from a buyer terminal. Since the description of operation S210 of FIG. 2 is applicable to operation S710, repeated description will be omitted.

[0092] In operation S720, the electronic apparatus 10 may acquire waybill information
10 of the item from a seller terminal acquiring the buyer information. Since the description of operation S220 of FIG. 2 is applicable to operation S720, repeated description will be omitted.

[0093] In operation S730, the electronic apparatus 10 may verify whether the waybill
information is authentic by acquiring at least one of verification waybill information
15 corresponding to the buyer information and verification buyer information corresponding to the waybill information from a logistics support server. Since the description of operation S230 of FIG. 2 is applicable to operation S730, repeated description will be omitted.

[0094] Based on the authenticity verification performed in operation S730, in operation
20 S740, the electronic apparatus 10 may determine whether the waybill information is false information.

[0095] As a result of the verifying of operation S740, when the waybill information
acquired from the seller terminal is not false information, in operation S750, the
electronic apparatus 10 may update information on a delivery status of the item.
25 Specifically, the electronic apparatus 10 may provide the information on the delivery

status of the item to the buyer terminal. When it is determined that the waybill information acquired from the seller terminal is reliable information, the electronic apparatus 10 may update the information on the delivery status of the item provided to the buyer terminal. For example, when it is determined that the waybill information acquired from the seller terminal is reliable information, the electronic apparatus 10 may update the information on the delivery status of the item from "item is being prepared" to "shipping is ordered".

[0096] When the waybill information acquired from the seller terminal is not false information, the electronic apparatus 10 may transmit the waybill information to the buyer terminal. Specifically, the electronic apparatus 10 may transmit the waybill information acquired from the seller terminal to the buyer terminal so that the buyer checks the waybill information. In this case, the electronic apparatus 10 may transmit the waybill information to the buyer terminal only when the waybill information acquired from the seller terminal is reliable information instead of false information, so that the waybill information is exposed through the buyer terminal.

[0097] When the waybill information acquired from the seller terminal is not false information, the electronic apparatus 10 may update a state in which the buyer is allowed to cancel the order through the buyer terminal to be a state in which an order cancelation of the item is unavailable. For example, when the waybill information is reliable information, the electronic apparatus 10 may control an item order cancelation function provided through the buyer terminal to be deactivated. The electronic apparatus 10 may provide a user interface implementing the item order cancelation function to the buyer terminal.

[0098] As a result of the determining of operation S740, when the waybill information acquired from the seller terminal is false information, in operation S760, the

electronic apparatus 10 may request reliable waybill information from the seller terminal. Also, when the waybill information is false information, the electronic apparatus 10 may not update the information on the delivery status of the item. For example, when the waybill information is false information, the electronic apparatus 10 may maintain the delivery status of the item as "item is being prepared." Also, the electronic apparatus 10 may not provide the waybill information to the buyer terminal and maintain a state in which the buyer is allowed to cancel the order of the item through the buyer terminal.

[0099] As such, the electronic apparatus 10 may provide only reliable waybill information to the buyer instead of false information, thereby improving buyer's convenience. For example, since the buyer may not track a delivery using a false waybill number, the electronic apparatus 10 may provide only reliable waybill information to the buyer, thereby increasing the buyer's convenience. Also, the electronic apparatus 10 may update the delivery status only when an authenticity of the waybill information is verified instead of updating the delivery status immediately when the waybill information is transmitted from the seller terminal, which may improve the buyer's convenience.

[00100] FIG. 8 illustrates an electronic apparatus operating based on an authenticity verification result according to an example embodiment.

[00101] The electronic apparatus 10 may provide information on a delivery status of an item in response to an order and delivery request of an item from a buyer. Referring to FIG. 8, the electronic apparatus 10 may provide information 810 on a delivery status of an item through a display of a buyer terminal 800.

[00102] In an example, the electronic apparatus 10 may provide, through the buyer terminal 800, the information 810 on five delivery statuses including "payment is

completed", "item is being prepared", "shipping is ordered", "delivery is processed", and "delivery is completed." The electronic apparatus 10 may verify whether waybill information of an item acquired from a seller terminal is authentic. As a result of the verification, when the waybill information is reliable information, the electronic apparatus 10 may update information on a delivery status. For example, the electronic apparatus 10 may update the delivery status from "item is being prepared" to "shipping is ordered" when it is verified that the waybill information is reliable information instead of updating the information on the delivery status immediately when the waybill information is received from the seller terminal.

10 **[00103]** In another example, when waybill information of an item is acquired from the seller terminal, the electronic apparatus 10 may update information on a delivery status of the item. When it is verified that the waybill information is false, the electronic apparatus 10 may update the information on the delivery status of the item again. For example, when the waybill information of the item is acquired from the seller terminal, the electronic apparatus 10 may update the deliver status of the item from "item is being prepared" to "shipping is ordered." As an authenticity verification result of the waybill information, when it is verified that the waybill information is false, the electronic apparatus 10 may update the deliver status of the item from "shipping is ordered" to "item is being prepared" again.

20 **[00104]** The electronic apparatus 10 may allow the buyer to cancel the order of the item through the buyer terminal until an authenticity of the waybill information of the item acquired from the seller terminal is verified. For example, the electronic apparatus 10 may activate a button 820 of an item order cancelation function until the authenticity of the waybill information of the item transmitted from the seller terminal is verified, and provide the activated button 820 to the buyer through the

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buyer terminal 800. Also, when it is verified that the waybill information is reliable information, the electronic apparatus 10 may deactivate the button 820 such that the order of the item is not to be canceled by the buyer.

[00105] Also, the electronic apparatus 10 may allow the buyer to cancel the order of the item through the buyer terminal based on the delivery status of the item. For example, when the delivery status of the item is "item is being prepared", the electronic apparatus 10 may activate the button 820 for canceling the order of the item. Also, when the delivery status of the item is "shipping is ordered", the electronic apparatus 10 may deactivate the button 820.

[00106] When it is verified that the waybill information acquired from the seller terminal is reliable information, the electronic apparatus 10 may provide the waybill information to the buyer through the buyer terminal. Referring to FIG. 8, the electronic apparatus 10 may not provide a waybill number 830 through the display of the buyer terminal 800 until the authenticity of the waybill information is verified. In response to a verification that the waybill information is not false information, the electronic apparatus 10 may provide the waybill number 830 to the buyer through the display of the buyer terminal 800.

[00107] FIG. 9 is a block diagram illustrating an electronic apparatus.

[00108] The electronic apparatus 10 may include a communication device 12 and a controller 14. FIG. 9 illustrates only components of the electronic apparatus 10 related to the present embodiment. However, it is obvious to those skilled in the art that other general-purpose components may be further included in the electronic apparatus 10 in addition to the components illustrated in FIG. 9.

[00109] The communication device 12 may communicate with an external electronic apparatus. The external electronic apparatus may be a terminal or a server. Also,

the communication device 12 may use communication technologies such as global system for mobile communication (GSM), code division multi access (CDMA), long term evolution (LTE), 5G, wireless LAN (WLAN), Wi-Fi, Bluetooth™, radio frequency identification (RFID), IrDA communication, ZigBee, and NFC, for example.

[00110] The communication device 12 may acquire, from a buyer terminal, buyer information accompanying an order and a delivery request of an item.

[00111] The communication device 12 may acquire waybill information of the item from a seller terminal acquiring the buyer information.

[00112] The communication device 12 may acquire at least one of verification waybill information corresponding to the buyer information and verification buyer information corresponding to the waybill information from a logistics support server.

[00113] The controller 14 may control an overall operation of the electronic apparatus 10 and process data and a signal. The controller 14 may include at least one hardware unit. In addition, the controller 14 may operate through at least one software module generated by executing program codes stored in a memory.

[00114] The controller 14 may verify whether the waybill information is authentic using at least one of the verification waybill information and the verification buyer information acquired by the communication device 12.

[00115] In an example, the communication device 12 may transmit the waybill information to the logistics support server and receive the verification buyer information corresponding to the waybill information from the logistics support server. The controller 14 may verify whether the waybill information is authentic by comparing the verification buyer information and the buyer information.

[00116] The communication device 12 may also receive time point information

associated with the verification buyer information. The controller 14 may verify whether the waybill information is authentic based on a result of comparison between the verification buyer information and the buyer information and whether the time point information is appropriate.

5 **[00117]** In another example, the communication device 12 may transmit the buyer information to the logistics support server and receive the verification waybill information corresponding to the buyer information from the logistics support server. The controller 14 may verify whether the waybill information is authentic by comparing the verification waybill information and the waybill information.

10 **[00118]** The communication device 12 may also receive time point information associated with the verification waybill information. The controller 14 may verify whether the waybill information is authentic based on a result of comparison between the verification waybill information and the waybill information and whether the time point information is appropriate.

15 **[00119]** In still another example, the communication device 12 may request the logistics support server to verify whether the waybill information is authentic and receive an authenticity verification result of the waybill information from the logistics support server.

20 **[00120]** When a result of the verifying indicates that the waybill information is false information, the controller 14 may request reliable waybill information from the seller terminal through the communication device 12.

25 **[00121]** The controller 14 may transmit information on a delivery status of the item to the buyer terminal through the communication device 12. When a result of the verifying indicates that the waybill information is not false information, the controller 14 may update the information on the delivery status of the item and transmit the

updated information to the buyer terminal.

[00122] When a result of the verifying indicates that the waybill information is not false information, the controller 14 may update, through the communication device 12, a state in which the buyer is allowed to cancel the order of the item through the buyer terminal to be a state in which an order cancelation of the item is unavailable.

[00123] When a result of the verifying indicates that the waybill information is not false information, the controller 14 may transmit the waybill information to the buyer terminal through the communication device 12.

[00124] The apparatus described herein may include a processor, a memory which stores and executes program data, a permanent storage such as a disk drive, a communication port for communication with an external device, and a user interface device such as a touch panel, a key, and a button. Methods realized by software modules or algorithms may be stored in a computer-readable recording medium as computer-readable codes or program commands which may be executed by the processor. Here, the computer-readable recording medium may be a magnetic storage medium (for example, a read-only memory (ROM), a random-access memory (RAM), a floppy disk, or a hard disk) or an optical reading medium (for example, a CD-ROM or a digital versatile disc (DVD)). The computer-readable recording medium may be dispersed to computer systems connected by a network so that computer-readable codes may be stored and executed in a dispersion manner. The medium may be read by a computer, may be stored in a memory, and may be executed by the processor.

[00125] The present embodiments may be represented by functional blocks and various processing steps. These functional blocks may be implemented by various numbers of hardware and/or software configurations that execute specific functions. For

example, the present embodiments may adopt direct circuit configurations such as a memory, a processor, a logic circuit, and a look-up table that may execute various functions by control of one or more microprocessors or other control devices. Similarly to that elements may be executed by software programming or software elements, the present embodiments may be implemented by programming or scripting languages such as C, C++, Java, and assembler including various algorithms implemented by combinations of data structures, processes, routines, or of other programming configurations. Functional aspects may be implemented by algorithms executed by one or more processors. In addition, the present embodiments may adopt the related art for electronic environment setting, signal processing, and/or data processing, for example. The terms "mechanism", "element", "means", and "configuration" may be widely used and are not limited to mechanical and physical components. These terms may include meaning of a series of routines of software in association with a processor, for example.

15 **[00126]** The above-described embodiments are merely examples and other embodiments may be implemented within the scope of the following claims.

CLAIMS

1. An operation method of an electronic apparatus for e-commerce, the method comprising:

acquiring, from a buyer terminal, buyer information accompanying an order and a
5 delivery request of an item;

acquiring waybill information of the item from a seller terminal acquiring the buyer
information;

receiving verification waybill information corresponding to the buyer information
and time point information associated with the verification waybill information from a
10 logistics support server; and

verifying whether the waybill information is authentic based on a result of
comparison between the verification waybill information and the waybill information and
whether the time point information associated with the verification waybill information is
within a predetermined period of time.

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2. The operation method of claim 1, wherein the verifying comprises:

transmitting the waybill information to the logistics support server;

receiving verification buyer information corresponding to the waybill information
from the logistics support server; and

20 verifying whether the waybill information is authentic by comparing the verification
buyer information and the buyer information.

3. The operation method of claim 2, wherein the receiving of the verification buyer
information comprises receiving time point information associated with the verification buyer
25 information, and

the verifying comprises verifying whether the waybill information is authentic based
on a result of comparison between the verification buyer information and the buyer
information and whether the time point information associated with the verification buyer

information is within a predetermined period of time.

4. The operation method of claim 1, wherein the verifying comprises:
transmitting the buyer information to the logistics support server.

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5. The operation method of claim 1, further comprising:
requesting the logistics support server to verify whether the waybill information is authentic; and

- 10 receiving an authenticity verification result of the waybill information from the logistics support server.

6. The operation method of claim 1, wherein the logistics support server is configured to request the verification waybill information from a delivery company server and receive the verification waybill information from the delivery company server.

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7. The operation method of claim 2, wherein the logistics support server is configured to request the verification buyer information from a delivery company server and receive the verification buyer information from the delivery company server.

- 20 8. The operation method of claim 1, wherein the logistics support server is configured to search for pieces of waybill information and pieces of buyer information corresponding to the pieces of waybill information stored in an internal database and acquire the verification waybill information.

- 25 9. The operation method of claim 2, wherein the logistics support server is configured to search for pieces of waybill information and pieces of buyer information corresponding to the pieces of waybill information stored in an internal database and acquire the verification

buyer information.

10. The operation method of claim 1, further comprising:

requesting reliable waybill information from the seller terminal when a result of the
5 verifying indicates that the waybill information is false information.

11. The operation method of claim 1, further comprising:

transmitting information on a delivery status of the item to the buyer terminal,
wherein when a result of the verifying indicates that the waybill information is not
10 false information, the transmitting comprises updating the information on the delivery status
of the item and transmitting the updated information to the buyer terminal.

12. The operation method of claim 1, further comprising:

updating, when a result of the verifying indicates that the waybill information is not
15 false information, a state in which the buyer is allowed to cancel the order of the item through
the buyer terminal, to be a state in which an order cancelation of the item is unavailable.

13. The operation method of claim 1, further comprising:

transmitting the waybill information to the buyer terminal when a result of the
20 verifying indicates that the waybill information is not false information.

14. The operation method of claim 1, wherein the buyer information includes at least one
of information on a contact of a buyer, information on a name of the buyer, and information
on a shipping address of the item.

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15. A non-transitory computer readable recording medium comprising a computer

program for performing the operation method of any one of claims 1 to 14.

16. An electronic apparatus for e-commerce, the apparatus comprising:

a communication device; and

5 a controller,

wherein the communication device is configured to:

acquire, from a buyer terminal, buyer information accompanying an order and a delivery request of an item;

10 acquire waybill information of the item from a seller terminal acquiring the buyer information; and

receive verification waybill information corresponding to the buyer information and time point information associated with the verification waybill information from a logistics support server, and

wherein the controller is configured to:

15 verify whether the waybill information is authentic based on a result of comparison between the verification waybill information and the waybill information and whether the time point information associated with the verification waybill information is within a predetermined period of time.