



(19) **United States**

(12) **Patent Application Publication**
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(10) **Pub. No.: US 2014/0207600 A1**

(43) **Pub. Date: Jul. 24, 2014**

(54) **SYSTEM AND METHOD FOR COLLECTION AND MANAGEMENT OF ITEMS**

(52) **U.S. Cl.**
CPC *G06Q 30/01* (2013.01)
USPC *705/26.1*

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(57) **ABSTRACT**

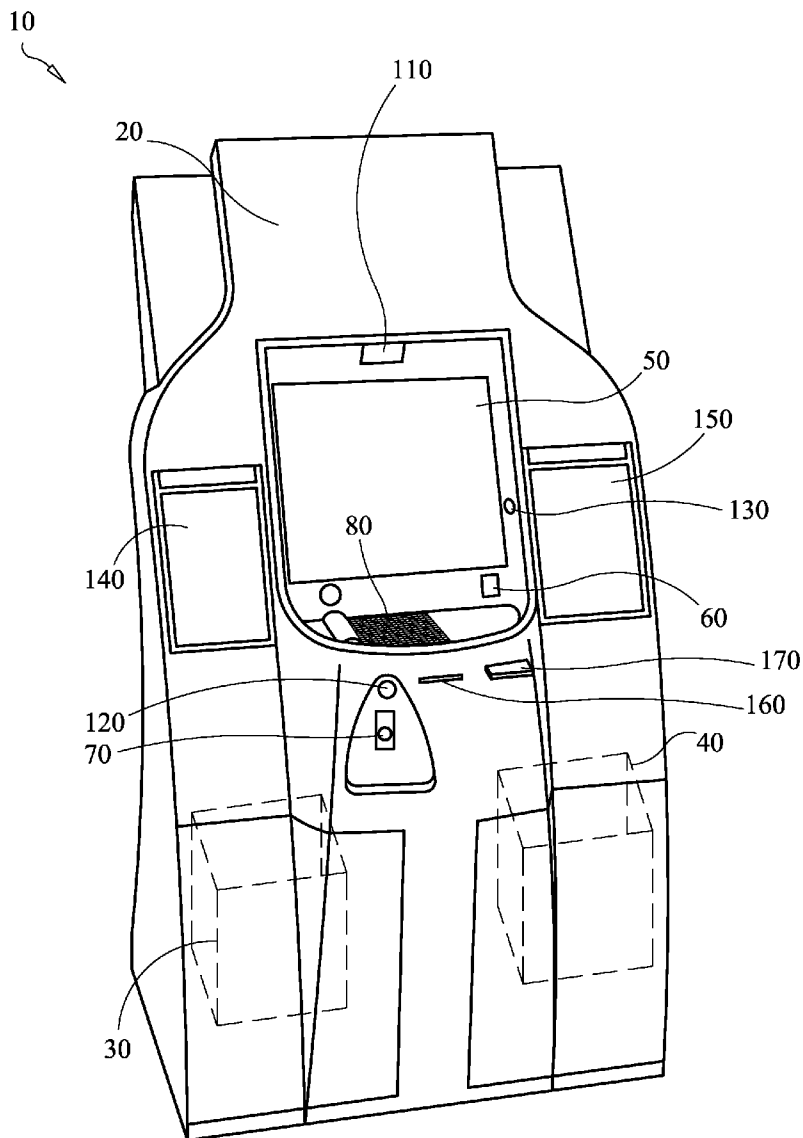
(21) Appl. No.: **13/594,540**

A method for collecting returned items and evaluating return policy criteria with respect to collected items, and a system for the same, are disclosed. The method includes providing a station, such as a kiosk terminal, preferably at a pharmacy location. The station includes a computer and a user interface including a touch screen interface. Items, for example, pharmaceutical items to be returned are brought to the station. The user enters information at the station, such as by scanning a bar code on a container of the item, weighing the item or its contents, and entering lot number and expiration date associated with the item. In the event of pharmaceutical items, the station determines whether the item is a controlled or non-controlled substance and opens a chute for the user to deposit the item into a receptacle selected based on the determination.

(22) Filed: **Aug. 24, 2012**

Publication Classification

(51) **Int. Cl.**
G06Q 30/00 (2006.01)



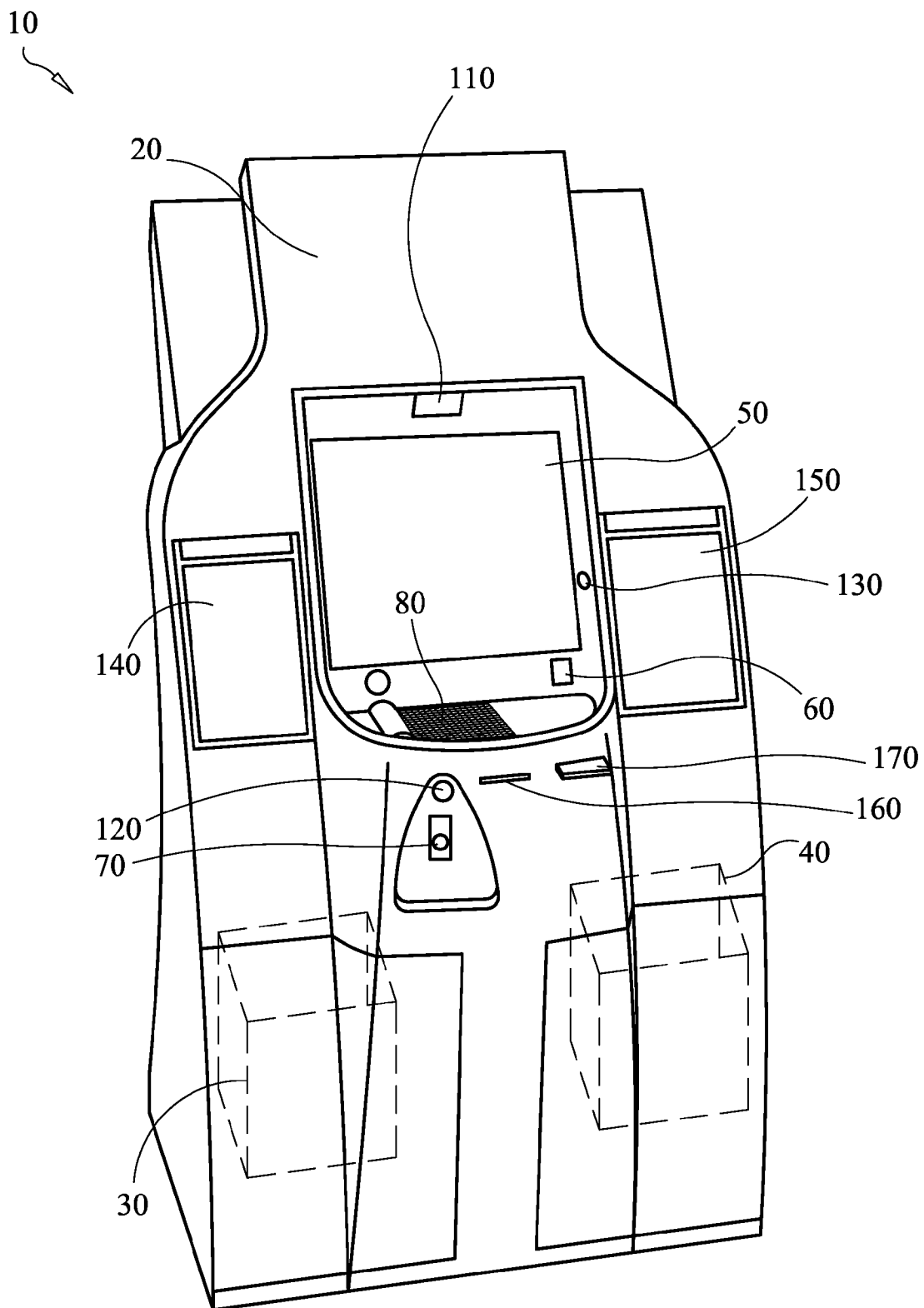


FIG. 1

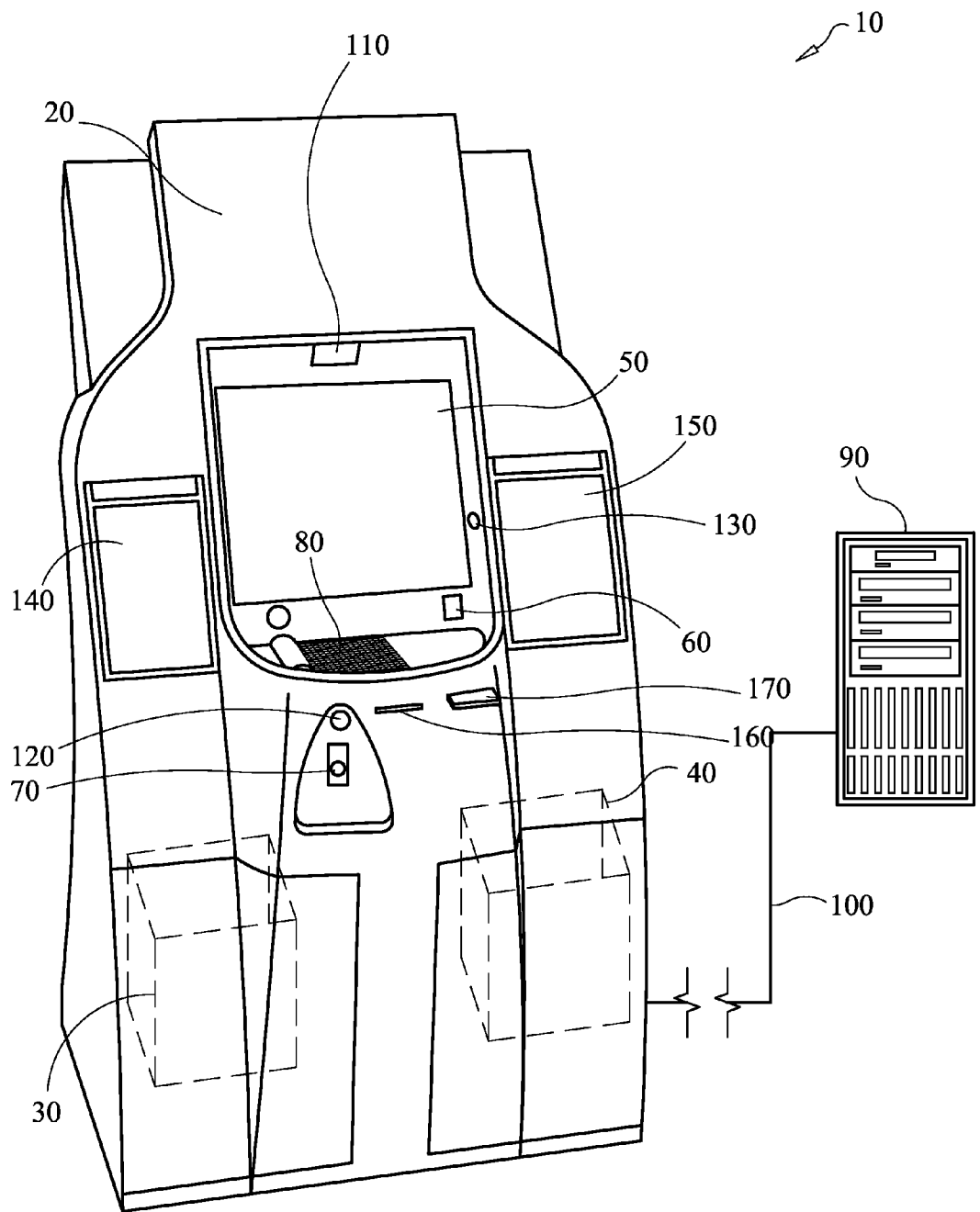
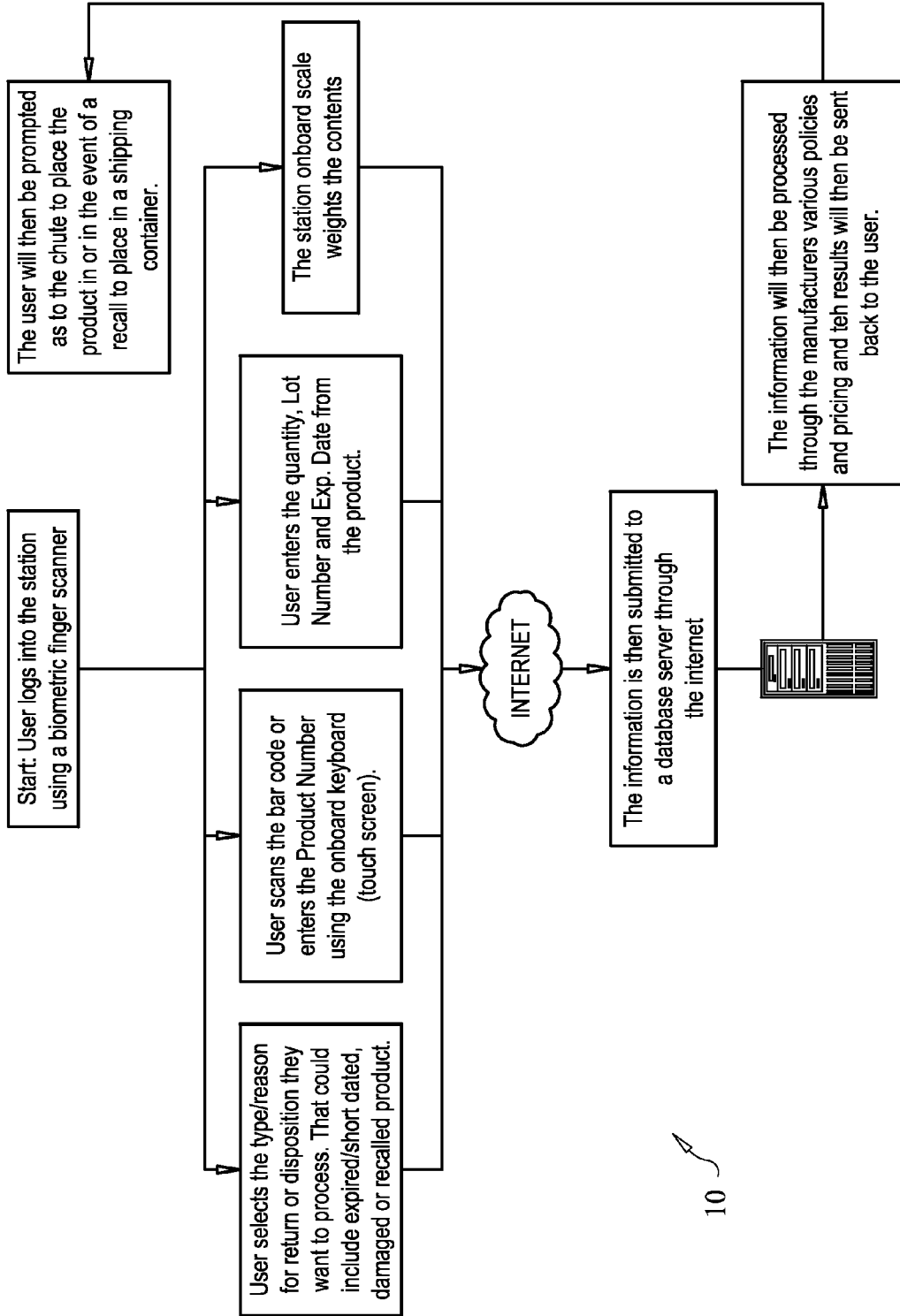


FIG. 2



10 ↗

FIG. 3

SYSTEM AND METHOD FOR COLLECTION AND MANAGEMENT OF ITEMS

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a system and method for the collection and management of items, and more particularly, to the collection of returnable items such as pharmaceuticals and the accounting and return policy management system with respect thereto.

[0003] 2. Background

[0004] The pharmaceutical industry in particular requires many return transactions to take place. Pharmaceutical items such as containers of prescription or over-the-counter drugs and medications may be returned by the retail pharmacy to the drug manufacturer for credit under certain circumstances. For example, various manufacturers have specific return policies which will determine to what extent credit will be given for returned pharmaceuticals such as items which are expired, short dated, damaged, defective, or recalled.

[0005] Conventionally, the manner in which pharmaceutical items are returned and disposed of is a rather inefficient and costly process. Typically, pharmacies will ship such items to a third party contractor who will record the details of each item including information such as lot numbers, expiration dates, quantities, product numbers, etc. The third party will determine what credits it believes are due under the various return policy rules. Then, the items are typically shipped to a contractor hired by the manufacturer to verify the details of the returned items. These contractors analyze the same information again, and apply the return policies to verify or refute the application of the return policies. The returned items must then be sent through proper disposal channels based on the pertinent regulations, such as controlled substances being sent to an incinerator.

[0006] This conventional process is a very inefficient process with the involvement of multiple parties, multiple shipping transactions, and significant costs to both the pharmacies and the manufacturers. Furthermore, regulations relating to the shipping of pharmaceuticals in various categories by agencies such as the EPA and FDA, et al., are placing increasing limitations on the ability of pharmacies to ship various items, and particularly so when such a shipment crosses state lines. This can result in pharmacies failing to claim credits rightfully due to them because they have no suitable method to ship a returned item. In addition, expired and otherwise returnable pharmaceutical items may pile up and take up space at retail locations.

[0007] There is no prior art system or method to address these problems. In other industries, such as in the medical waste industry, there are various waste receptacle units which are designed to accept various types of medical waste, including sharps. For example, U.S. Pat. No. 7,620,559 issued to Mallett et al., discloses a medical waste disposal unit which provides for different openings to different containers for different types of waste. However, there is no system in place to enter information which would relate to returning an item, nor is there any determination of return policy compliance. Numerous other similar units exist in the prior art, however, none of them provide for return policy analyses.

[0008] U.S. Pat. No. 7,487,100, also issued to Mallett et al., discloses a method of sorting regulated drug waste. But again, there is no method for providing details related to determining whether a return credit is available under a return policy.

[0009] U.S. Pat. No. 6,754,637 issued to Stenz discloses a method for managing return processing. Software is used to address return policy issues. Other such systems exist. However, there is no method disclosed to verify the details of the product being returned, and the product must still be shipped for verification.

[0010] None of these prior devices provide for an efficient system which verifies the item contents without shipping to another site, and addresses return policy issues without having to ship returned items to an independent contractor for verification. Thus, there continues to be a need for a more efficient method and system for the collection and management of returned items.

SUMMARY

[0011] The present invention is a method and system for collecting returned items and determining return policy compliance. This method and system consolidate the collection, verification, and return compliance steps into a much more efficient process. While this method and system may be applied to any suitable industry, one industry in which the method is particularly well-suited is the pharmaceutical industry. It is understood that the following discussion and description relate to certain embodiments of the invention, but that the scope of the invention is broad enough to include collection in other industries as well.

[0012] In various different embodiments, the invention includes providing a kiosk type station at a retail location such as a retail pharmacy location or any pharmacy location. Ideally, the station would be located in an area for personnel access only. Employees are able to use the station to deposit pharmaceutical items for return, such as items which are expired, short dated, damaged, defective, or recalled.

[0013] In various embodiments, the station includes a cabinet and an interior in which two receptacles are placed. One receptacle is placed in a non-controlled substance area, and the other is in a controlled substance area, as various regulations require these two categories of waste to be treated differently. The receptacles are locked within the station and can be accessed to deposit returned items via access panels which open selectively depending on which category the returned items belong to.

[0014] A user enters information to identify the user at the station. Then, various pieces of information are input into the system, either by user interface such as touch screen, or by various station instruments. In various embodiments, the information may include any combination of scanned bar code, product number, lot number, expiration date, weight, pill count, type of packaging and whether sealed or partial package, whether prescription vial, etc. The station may include various cameras to record events for later verification. A pill counting tray and scale are included. Once all information is entered, a panel may open on one side or the other, depending on the category of the item. The user then deposits the item into a chute and it drops into the removable receptacle below. Once one of the receptacles becomes filled to a predetermined level, the system may notify the user at the station, or notify an off site party such as a waste disposal contractor, that the receptacle requires removal and changing.

[0015] Once information is entered, various portions of information can be checked, such as whether the weight and count of the item matches existing database data for the item. The system then checks whether return policy rules allow the item to qualify for a return or partial return. This may be done

using updated information at the station itself. However, the preferred method is to enable the system to communicate via a network or the internet with a database server which is maintained with updated information related to pharmaceutical items and manufacturer return policy rules. Once the system determines to what extent the item qualifies for return, and record and accounting is stored and optionally sent to interested parties such as the retail facility, the manufacturer, or a third party.

[0016] Thus, this system greatly streamlines the process for obtaining credit for returned items such as pharmaceuticals, and disposing of them. Instead of the items being shipped to a manufacturer or third party contractor, which is sometimes prohibited in view of various local and national government regulations, the verification steps are largely automated and take place right on site at the pharmacy location. Waste is then taken directly to a waste disposal facility such as a waste consolidation facility or an incinerator directly from the pharmacy location.

[0017] Still other objects and advantages of the present invention will become readily apparent to those skilled in the art from the following detailed description, wherein it is shown and described only the preferred embodiments of the invention, simply by way of illustration of the best mode contemplated of carrying out the invention. As will be realized, the invention is capable of other and different embodiments and its several details are capable of modifications in various obvious respects, without departing from the invention. Accordingly, the drawings, wherein like reference numerals represent like features, and description are to be regarded as illustrative in nature and not as restrictive.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] FIG. 1 shows a perspective view of one embodiment of the station of the present invention.

[0019] FIG. 2 shows a perspective view of one embodiment of the system of the present invention.

[0020] FIG. 3 shows a diagram of one embodiment of the method of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0021] While this invention is susceptible of embodiments in many different forms, there are shown in the drawings and will herein be described in detail, preferred embodiments of the invention with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the broad aspect of the invention to the embodiments illustrated.

[0022] The present invention is a method and system **10** for collecting returnable items and determining return policy compliance. The method and system is applicable to many different types of items which can be returned for potential credit. It is understood that this system and method can be adapted or used with respect to any suitable item. However, in a preferred embodiment, the method and system is used in conjunction with pharmaceutical items being returned. Typically, these items include expired drugs, damaged items, short dated drugs meaning drugs with expiration dates approaching within a short time period, defective items, or recalled items.

[0023] In various embodiments, the system **10** and method include providing a station **20** having a first receptacle **30** adapted to receive a returnable item. A second receptacle **40** also adapted to receive a returnable item is preferably pro-

vided. The receptacles are ideally removable, though they are optionally locked within the station **10**. Access to remove them may be provided to authorized persons either identified by the system **10** or having a key or combination. The receptacles may be shippable containers such as shipping boxes, or they may be any other suitable containers.

[0024] The station **10** is provided with a computer and a user interface such as a touch screen **50**. A user is able to enter information using the touch screen. In certain embodiments, a user initially is identified by the system via any of various methods, such as by scanned ID, biometric finger scanner **60**, or user name and password identification. The user then enters information about the item being returned. Such information may include the reason for the return, such as expired, short dated, damaged, defective, recalled, etc. The user may then scan a bar code on the item using a scanner **70** or **170**, or enters a product number associated with the item. Further information is preferably entered, such as a lot number associated with the pharmaceutical item and an expiration date.

[0025] In various embodiments, the user is then prompted to empty the contents of the container of the item onto a pill counting tray **80**, count the contents, whether pills, tablets, capsules, etc., and then replace them into the container. The tray **80** is preferably the top surface of a scale which weighs the item or its contents. The quantity information, as well as the weight, are input into the system. Various verifications are preferably performed by the system, such as verifying that the weight of the item matches its type and quantity based on known information stored in a database related to the item.

[0026] The information is then evaluated with respect to return policy rules. The rules may be updated in a database at the station **20** itself, or a database server **90** may be networked with the station **20** via a network or internet connection **100**. The information provided is checked against return policy rules to determine whether the return qualifies for credit. The manufacturer or its agent can be sent a report of this determination and an accounting is kept. Preferably, the station is located at a pharmacy location, and the pharmacy company can also have a report of the analysis and an accounting sent.

[0027] In various embodiments, a first camera **110** records at least a portion of the user's transaction at the station for possible subsequent verification. A second camera **120** and optionally a third camera **130** are preferably placed in locations to record various views of the item being returned for verification. Records from the cameras may be viewed or spot checked at subsequent times to verify the user's actions.

[0028] A first access panel **140** and second access panel **150** are preferably provided. These panels are opened and closed by the system based on whether the item is determined to fit into one category or another. In the embodiment of returning pharmaceutical items, the item is determined by the system using information input by the user whether the item is a controlled or non-controlled substance. If it is a controlled substance, the second access panel **150** may open to allow the user to deposit the item into the second receptacle **40**. If the item is a non-controlled substance, the first access panel **140** may be opened to allow the user to deposit the item into the first receptacle **30**.

[0029] In certain embodiments, the station **20** may further include a label printer **160** for printing labels, such as for shipping a box for a recalled item. In the event an item is recalled, the system may be used to display this information on the screen. Thus, if a pharmacy location is sent a recall

notice via this station, the station may require the user to act on the recall before authorizing further use.

[0030] As the system provides a verification and accounting of the items deposited, and to what extent return policies should be implemented, no further third party or manufacturer need verify the contents of the receptacles. Thus, the receptacles can be transported to a waste disposal facility such as a dump or incinerator. Access is provided to authorized parties to remove the receptacles and transport them.

[0031] While specific embodiments have been illustrated and described, numerous modifications come to mind without significantly departing from the spirit of the invention and the scope of protection is limited by the scope of the accompanying claims.

What is claimed is:

1. A method for collecting returnable items and determining return policy compliance comprising the steps of:

providing a station having a first receptacle adapted to receive a returnable item,

providing said station with a computer and a user interface adapted to enable a user to enter information related to a returnable item,

receiving said information related to the returnable item at said station,

evaluating at least a portion of said information with respect to a return policy associated with the returnable item, and

determining whether or to what extent the item complies with the return policy.

2. The method for collecting returnable items and determining return policy compliance according to claim **1**, further comprising the steps of:

providing a database server having return policy parameters,

providing a networked connection between said database server and said computer, wherein said database server is configured to receive said information from said computer over said networked connection.

3. The method for collecting returnable items and determining return policy compliance according to claim **2**, further comprising the steps of:

providing a second receptacle within said station adapted to receive a returnable item,

determining an item category based on at least a portion of said information,

providing a pathway to enable a user to deposit the returnable item in one of said first receptacle or said second receptacle based on the item category.

4. The method for collecting returnable items and determining return policy compliance according to claim **3**, wherein said item is a pharmaceutical item and wherein said item category is either a non-controlled pharmaceutical substance or a controlled pharmaceutical substance.

5. The method for collecting returnable items and determining return policy compliance according to claim **4**, wherein the step of providing a station comprises providing the station at a pharmacy location.

6. The method for collecting returnable items and determining return policy compliance according to claim **5**, wherein a portion of said information is an indication of a reason for returning the item.

7. The method for collecting returnable items and determining return policy compliance according to claim **6**, wherein a portion of said information includes a product number or bar code data.

8. The method for collecting returnable items and determining return policy compliance according to claim **7**, wherein a portion of said information includes a quantity of said pharmaceutical item.

9. The method for collecting returnable items and determining return policy compliance according to claim **8**, wherein a portion of said information includes an expiration date of said pharmaceutical item.

10. The method for collecting returnable items and determining return policy compliance according to claim **9**, wherein a portion of said information includes a lot number associated with said pharmaceutical item.

11. The method for collecting returnable items and determining return policy compliance according to claim **10**, further comprising the steps of:

providing said station with a scale adapted to measure the weight of said pharmaceutical item, and

sensing a weight associated with said pharmaceutical item once said item is placed on said scale.

12. The method for collecting returnable items and determining return policy compliance according to claim **11**, further comprising the step of arranging for removing said first receptacle from said station and transporting it substantially directly from said pharmacy location to a waste disposal facility.

13. A collection station comprising:

a station device having a computer and a user interface,

a first receptacle disposed in the interior of said station device adapted to receive a deposited pharmaceutical item,

a second receptacle disposed in the interior of said station device adapted to receive a deposited pharmaceutical item,

a first chute having a first selectively controlled openable and closable access door adapted to selectively provide access to said first receptacle,

a second chute having a second selectively controlled openable and closable access door adapted to selectively provide access to said second receptacle,

software and hardware functionality adapted to receive information from a user and determine from at least a portion of said information whether a pharmaceutical item being deposited is a controlled or non-controlled pharmaceutical item, and based on a determination of whether such item is a controlled or non-controlled pharmaceutical item, adapted to open a selective one of first access door or said second access door.

14. The collection station according to claim **13**, further comprising:

at least one camera disposed at said station and positioned to view a user depositing a pharmaceutical item.

15. The collection station according to claim **14**, further comprising a pharmaceutical scale adapted to allow a user to weigh a pharmaceutical item, and the scale adapted to provide output weight information to said computer.

16. The collection station according to claim 15, wherein said scale includes a manual pill counting tray at a top surface adapted to allow a user to place and count tablets, capsules, or pills associated with said pharmaceutical item.

17. The collection station according to claim 16, wherein said user interface comprises a touch screen interface, and further comprising a scanner adapted to scan a bar code on a pharmaceutical item.

18. The collection station according to claim 17, further comprising a networked connection between said computer and an off site database server adapted to receive information from said computer and evaluate said information in view of return policy compliance rules.

19. A system for collecting items comprising:

a station having at least a first receptacle adapted to receive an item, said station further comprises a computing device having a user interface adapted to enable a user to enter at least a first piece of information associated with such an item,

a database containing return policy information related to such an item, and

software adapted to function to assist in determining whether such item meets requirements of a return policy related to such an item based on at least the first piece of information.

20. The system for collecting items according to claim 19, further comprising a second receptacle adapted to receive an item,

wherein said first receptacle is disposed within an interior of said station, and wherein said second receptacle is disposed within the interior of said station,

wherein said user interface is adapted to enable such a user to enter a second piece of information, and wherein said computing device is adapted to determine into which of said first receptacle and said second receptacle such an items should be placed, said computing device adapted to provide a signal to selectively cause a first passageway to open to allow a user to deposit such an item in said first receptacle or a second passageway to open to allow a user to deposit such an item in said second receptacle based on the second piece of information.

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