

Claims

What is claimed is:

1. A computer-implemented system for managing inventory by validating physical quantities of items in fulfillment centers for use with a user interface, comprising:
 - one or more memory devices storing instructions; and
 - one or more processors configured to execute the instructions to perform operations comprising:
 - receiving, from a mobile device, a request for one or more validation locations, a zone for performing a validation, a validation type, and a round of validation;
 - retrieving validation locations, each location associated with a status of not assigned, assigned, problem zone, or validated;
 - determining which of the retrieved validation locations needing assignment have a location in the received zone, a match in the validation type, and a match in the round of validation;
 - selecting one or more of the matching validation locations if a status of each determined validation locations is equal to not assigned; and
 - responding to the received request by transmitting one or more selected validation locations to the mobile device.
2. The computer-implemented system of claim 1, wherein the operations further comprise:
 - receiving, from the mobile device, acceptance of the transmitted validation location;
 - adjusting the status of the accepted validation location to assigned;

responding to the received acceptance by transmitting a request for a first physical quantity of items in the accepted validation location to the mobile device;

receiving, from the mobile device, a first physical quantity of items;

determining whether the received first physical quantity of items matches a virtual quantity of items in the accepted validation location; and

when the first physical quantity matches the virtual quantity:

adjusting the status of the accepted validation location to validated; and

when the first physical quantity does not match the virtual quantity:

adjusting the status of the accepted validation location to not assigned and a round associated with the location.

3. The computer-implemented system of claim 2, wherein the operations further comprise:

receiving, from a mobile device, a request for validation in the accepted validation location and a round of validation;

determining whether the received round of validation matches the round associated with the accepted validation location;

responding to the received request by transmitting a request for a re-counted physical quantity of items in the accepted validation location to the mobile device based on the determination; and

adjusting the status of the accepted validation location to assigned.
4. The computer-implemented system of claim 3, wherein the operations further comprise:

receiving, from the mobile device, a re-counted physical quantity of items;

determining whether the received re-counted physical quantity of items matches the first physical quantity of items; and

when the received re-counted physical quantity matches the first physical quantity:

adjusting the status of the accepted validation location to validated, and

adjusting the virtual quantity to match the re-counted physical quantity when the virtual quantity is fewer than the re-counted physical quantity; or

adjusting the status of the accepted validation location to problem zone to prevent purchase order of the items in the determined location when the re-counted physical quantity is fewer than the virtual quantity; and

when the received re-counted physical quantity does not match the first physical quantity:

determining whether the received re-counted physical quantity of items matches the virtual quantity of items; and

when the received re-counted physical quantity matches the virtual quantity of items:

adjusting the status of the accepted validation location to validated; and

when the received re-counted physical quantity does not match the virtual quantity of items:

adjusting the status of the accepted validation location to not assigned and a round associated with the location.

5. The computer-implemented system of claim 4, wherein the operations further comprise accepting, from a mobile device, at least one request for validation in the accepted validation location and a round of validation until a received re-counted physical quantity matches one of previous physical quantities of items or the virtual quantity of items.

6. The computer-implemented system of claim 5, wherein the at least one request for validation is not accepted upon reaching a predefined number of iterations.
7. The computer-implemented system of claim 2, wherein the operations further comprise:
 - transmitting, to a mobile device for display, based on the accepted validation location, a request for a location identifier comprising a list of items in the accepted validation location;
 - receiving, from the mobile device, the requested location identifier;
 - determining whether the received location identifier matches the accepted validation location; and
 - transmitting, to the mobile device, a request for one or more item identifiers based on the determination.
8. The computer-implemented system of claim 7, wherein the operations further comprise:
 - receiving, from the mobile device, one or more requested item identifiers;
 - determining whether the received item identifiers match the list of items from the location identifier; and
 - transmitting, to the mobile device, a request for a first physical quantity of items in the accepted validation location.
9. The computer-implemented system of claim 2, wherein the request for a physical quantity of items in the accepted validation location comprises a user interface including buttons for increasing and decreasing a physical quantity of the items.
10. A computer-implemented method for managing inventory by validating physical quantities of items in fulfillment centers for use with a user interface, comprising:

receiving, from a mobile device, a request for one or more validation locations, a zone for performing a validation, a validation type, and a round of validation;
retrieving validation locations, each location associated with a status of not assigned, assigned, problem zone, or validated;
determining which of the retrieved validation locations needing assignment have a location in the received zone, a match in the validation type, and a match in the round of validation;
selecting one or more of the matching validation locations if a status of each determined validation locations is equal to not assigned;
and
responding to the received request by transmitting one or more selected validation locations to the mobile device.

11. The method of claim 10, further comprising:

receiving, from the mobile device, acceptance of the transmitted validation location;
adjusting the status of the accepted validation location to assigned;
responding to the received acceptance by transmitting a request for a first physical quantity of items in the accepted validation location to the mobile device;
receiving, from the mobile device, a first physical quantity of items;
determining whether the received first physical quantity of items matches a virtual quantity of items in the accepted validation location; and
when the first physical quantity matches the virtual quantity:
adjusting the status of the accepted validation location to validated; and
when the first physical quantity does not match the virtual quantity:
adjusting the status of the accepted validation location to not assigned and a round associated with the location.

12. The method of claim 11, further comprising:
- receiving, from a mobile device, a request for validation in the accepted validation location and a round of validation;
 - determining whether the received round of validation matches the round associated with the accepted validation location;
 - responding to the received request by transmitting a request for a re-counted physical quantity of items in the accepted validation location to the mobile device based on the determination; and
 - adjusting the status of the accepted validation location to assigned.
13. The method of claim 12, further comprising:
- receiving, from the mobile device, a re-counted physical quantity of items;
 - determining whether the received re-counted physical quantity of items matches the first physical quantity of items; and
 - when the received re-counted physical quantity matches the first physical quantity:
 - adjusting the status of the accepted validation location to validated, and
 - adjusting the virtual quantity to match the re-counted physical quantity when the virtual quantity is fewer than the re-counted physical quantity; or
 - adjusting the status of the accepted validation location to problem zone to prevent purchase order of the items in the determined location when the re-counted physical quantity is fewer than the virtual quantity; and
 - when the received re-counted physical quantity does not match the first physical quantity:
 - determining whether the received re-counted physical quantity of items matches the virtual quantity of items; and
 - when the received re-counted physical quantity matches the virtual quantity of items:

adjusting the status of the accepted
validation location to validated; and
when the received re-counted physical quantity does not
match the virtual quantity of items:

adjusting the status of the accepted
validation location to not assigned
and a round associated with the
location.

14. The method of claim 13, further comprising accepting, from a mobile device, at least one request for validation in the accepted validation location and a round of validation until a received re-counted physical quantity matches one of previous physical quantities of items or the virtual quantity of items.
15. The method of claim 14, wherein the at least one request for validation is not accepted upon reaching a predefined number of iterations.
16. The method of claim 11, wherein the operations further comprise:
 - transmitting, to a mobile device for display, based on the accepted validation location, a request for a location identifier comprising a list of items in the accepted validation location;
 - receiving, from the mobile device, the requested location identifier;
 - determining whether the received location identifier matches the accepted validation location; and
 - transmitting, to the mobile device, a request for one or more item identifiers based on the determination.
17. The method of claim 16, further comprising:
 - receiving, from the mobile device, one or more requested item identifiers;
 - determining whether the received item identifiers match the list of items from the location identifier; and
 - transmitting, to the mobile device, a request for a first physical quantity of items in the accepted validation location.

18. The method of claim 11, wherein the validation request for a physical quantity of items in the determined location comprises a user interface including buttons for increasing and decreasing a physical quantity of the items.
19. A system comprising:
 - a computer-implemented system for managing inventory by validating physical quantities of items in fulfillment centers for use with a user interface, comprising:
 - one or more memory devices storing instructions; and
 - one or more processors configured to execute the instructions to perform operations comprising:
 - receiving, from a mobile device, a request for one or more validation locations, a zone for performing a validation, a validation type, and a round of validation;
 - retrieving validation locations, each location associated with a status of not assigned, assigned, problem zone, or validated;
 - determining which of the retrieved validation locations needing assignment have a location in the received zone, a match in the validation type, and a match round of validation;
 - selecting one or more of the matching validation locations if a status of each determined validation locations is equal to not assigned; and
 - determining whether the received physical quantity of items matches a virtual

quantity of items in the determined location; and
responding to the received request by
transmitting one or more selected validation locations to the mobile device; and
a mobile device comprising:
a network interface;
one or more memory devices storing instructions; and
one or more processors configured to execute the instructions to perform operations comprising:
transmitting, to the computer-implemented system, a request for one or more validation locations, a zone for performing a validation, a validation type, and a round of validation; and
receiving, from the computer-implemented system, one or more validation locations.

20. The system of claim 19, further comprising:
wherein the instructions of the mobile device further cause the processors of the mobile device to perform operations comprising:
transmitting, to the computer-implemented system, acceptance of the transmitted validation location; and
transmitting, to the computer implemented system, a first physical quantity of items; and
wherein the instructions of the computer-implemented system further cause the processors of the computer-implemented system to perform operations comprising:
receiving, from the mobile device, acceptance of the transmitted validation location;

adjusting the status of the accepted validation location to assigned;

responding to the received acceptance by transmitting a request for a first physical quantity of items in the accepted validation location to the mobile device;

receiving, from the mobile device, a first physical quantity of items; and

determining whether the received first physical quantity of items matches a virtual quantity of items in the accepted validation location; and

when the first physical quantity matches the virtual quantity:

adjusting the status of the accepted validation location to validated; and

when the first physical quantity does not match the virtual quantity:

adjusting the status of the accepted validation location to not assigned and a round associated with the location.