CLAIMS

1. A computer-implemented system for providing stowing location recommendation, the system comprising:

a memory storing instructions; and

at least one processor configured to execute the instructions to:

receive, from an application on a user device associated with a user, a request for a location recommendation for stowing at least one inbound product, wherein the request comprises a section in a zone associated with the at least one inbound product, wherein the section in the zone is selected based on a scan of a location identifier, associated with the section, by the user device;

receive, from the user device via a graphical user interface (GUI) for a stowing management system, a scan of a product identifier of the at least one inbound product and a quantity of the at least one inbound product;

store, into the database, one or more parameters associated with the product identifier;

acquire, from one or more sensors, image or video data related to a plurality of locations capable of stowing the at least one inbound product;

determine, from the image or video data, an emptiness and capacity of the plurality of locations;

determine, based on the stored parameters of the product identifier in the database, quantity of the at least one inbound product, and the emptiness and capacity of the plurality of locations, a plurality of locations to recommend within the section in the zone, the plurality of recommended locations having an emptiness and capacity to store the at least one inbound product, wherein:

the plurality of recommended locations have not been recommended to another user different from the user;

retrieve, from the database, information recommended to another user different from the user of the user device to determine the status of the plurality of locations;

sample, based on a predetermined rule, a number of locations from the plurality of locations for stowing the at least one inbound product;

display, via the GUI on the user device, the sampled number of locations to the user for stowing the at least one inbound product, the displayed locations being selectable, wherein the predetermined rule comprises at least one of:

a first restriction on a number of stock keeping units (SKUs) that can be stored in each location,

a second restriction on an expiration date associated with each SKU,

a third restriction on a barcode associated with each SKU, or

a fourth restriction on a risk level associated with each SKU;

provide a recommendation, based on the predetermined rule, to store a maximum of three different SKUs in each location;

receive, from the user device via the GUI, a selection of a stowing location among the sampled number of locations, wherein the selection of a stowing location includes touching or pressing one of the displayed sampled number of locations; and

modify a database to assign a location identifier associated with the selected stowing location to the inbound product to monitor each inbound product in real-time using the user interface.

2. The system of claim 1, wherein the plurality of locations are at least 30%, 50%, or 70% empty.

3. The system of claim 1, wherein the zone comprises at least one of a picking zone or a buffer zone.

4. The system of claim 3, wherein the picking zone is configured to store inbound products that are available for purchase by a customer.

5. The system of claim 3, wherein the buffer zone is configured to store inbound products that are not available for purchase by a customer.

6. The system of claim 1, wherein the at least one processor is configured to execute the instructions to prevent, based on the second restriction, a first inbound product associated with a first SKU having a first expiration date from being stored with a second inbound product associated with the first SKU having a second expiration date.

7. The system of claim 1, wherein the at least one processor is configured to execute the instructions to prevent, based on the third restriction, a first inbound product associated with a first SKU having a first barcode from being stored with a second inbound product associated with the first SKU having a second barcode.

8. The system of claim 1, wherein the at least one processor is configured to execute the instructions to provide, based on the fourth restriction, a recommendation to store SKUs having risk levels higher than a predetermined threshold separately.

9. The system of claim 1, wherein the at least one processor is configured to execute the instructions to provide, based on the fourth restriction, a recommendation to store SKUs having risk levels lower than a predetermined threshold in a particular location.

10. A computer-implemented method for providing stowing location recommendation, the method comprising:

receiving, from a user device associated with a user, a request for a location recommendation for stowing at least one inbound product, wherein the request comprises a section in a zone associated with the at least one inbound product, wherein the section in the zone is selected based on a scan of a local identifier, associated with the section, by the user device;

receiving, from the user device via a graphical user interface (GUI) for a stowing management system, a scan of a product identifier of the at least one inbound product and a quantity of the at least one inbound product;

storing, into the database, one or more parameters associated with the product identifier;

acquiring, from one or more sensors, image or video data related to a plurality of locations capable of stowing the at least one inbound product;

determining, from the image or video data, an emptiness and capacity of the plurality of locations;

determining, based on the product identifier, quantity of the at least one inbound product, and the emptiness and capacity of the plurality of locations, a plurality of locations to recommend within the section in the zone, the plurality of recommended locations having an emptiness and capacity to store the at least one inbound product, wherein:

the plurality of locations have not been recommended to another user different from the user;

retrieving, from the database, information recommended to another user different from the user of the user device to determine the status of the plurality of locations;

sampling, based on a predetermined rule, a number of locations, among the plurality of locations, for stowing the at least one inbound product;

displaying, via the GUI on the user device, the sampled number of locations to the user for stowing the at least one inbound product, the displayed locations being selectable, wherein the predetermined rule comprises at least one of:

a first restriction on a number of stock keeping units (SKUs) that can be stored in each location,

a second restriction on an expiration date associated with each SKU,

a third restriction on a barcode associated with each SKU, or

a fourth restriction on a risk level associated with each SKU;

providing a recommendation, based on the predetermined rule, to store a maximum of three different SKUs in each location;

receiving, from the user device via the GUI, a selection of a stowing location among the sampled number of locations, wherein the selection of a stowing location includes touching or pressing one of the displayed sampled number of locations; and

modifying a database to assign a location identifier associated with the selected stowing location to the inbound product to monitor each inbound product in real-time using the user interface.

11. The method of claim 10, wherein the plurality of locations are at least 30%, 50%, or 70% empty.

12. The method of claim 10, wherein the zone comprises at least one of a picking zone or a buffer zone.

13. The method of claim 12, wherein the picking zone is configured to store inbound products that are available for purchase by a customer.

14. The method of claim 12, wherein the buffer zone is configured to store inbound products that are not available for purchase by a customer.

15. The method of claim 10, further comprising preventing, based on the second restriction, a first inbound product associated with a first SKU having a first expiration date from being stored with a second inbound product associated with the first SKU having a second expiration date.

16. The method of claim 10, further comprising preventing, based on the third restriction, a first inbound product associated with a first SKU having a first barcode from being stored with a second inbound product associated with the first SKU having a second barcode.

17. The method of claim 10, further comprising providing, based on the fourth restriction, a recommendation to store SKUs having risk levels higher than a predetermined threshold separately, and to store SKUs having risk levels lower than a predetermined threshold in a particular location.

18. A computer-implemented system for providing stowing location recommendation, the system comprising:
a memory storing instructions; and
at least one processor configured to execute the instructions to:
receive, from a user device associated with a user, a request for a location recommendation for stowing at least one inbound product, wherein the request comprises:
a section in a zone associated with the at least one inbound product, the zone comprising at least one of a picking zone configured to store inbound products that are available for purchase by a customer, or a buffer zone configured to store inbound products that are not available for purchase by a customer, wherein the section in the zone is selected based on a scan of a

location identifier, associated with the section, by the user device;

receive, from the user device via a graphical user interface (GUI) for a stowing management system, a scan of a product identifier of the at least one inbound product and a quantity of the at least one inbound product;

store, into the database, one or more parameters associated with the product identifier;

acquire, from one or more sensors, image or video data related to a plurality of locations capable of stowing the at least one inbound product;

determine, from the image or video data, an emptiness and capacity of the plurality of locations;

determine, based on the product identifier, quantity of the at least one inbound product, and the emptiness and capacity of the plurality of locations, a plurality of locations to recommend within the section in the zone, the plurality of recommended locations being configured to store the at least one inbound product, wherein:

the plurality of recommended locations are at least 30%, 50%, or 70% empty, and

the plurality of locations have not been recommended to another user different from the user;

retrieve, from the database, information recommended to another user different from the user of the user device to determine the status of the plurality of locations;

sample, based on a predetermined rule, a number of locations, among the plurality of locations, for stowing the at least one inbound product; and

display, via the GUI on the user device, the sampled number of locations to the user for stowing the at least one inbound product, wherein the predetermined rule comprises at least one of:

a first restriction on a number of stock keeping units (SKUs) that can be stored in each location,

a second restriction on an expiration date associated with each SKU,

a third restriction on a barcode associated with each SKU, or

a fourth restriction on a risk level associated with each SKU;

provide a recommendation, based on the predetermined rule, to store a maximum of three different SKUs in each location;

receive, from the user device via the GUI, a selection of a stowing location among the sampled number of locations, wherein the selection of a stowing location includes touching or pressing one of the displayed sampled number of locations; and

modify a database to assign a location identifier associated with the selected stowing location to the inbound product to monitor each inbound product in real-time using the user interface.