

CLAIMS

What is claimed is:

1. A computer-implemented system for managing inventory placement, the system comprising:
a memory storing instructions; and
at least one processor configured to execute the instructions to:
receive, from a remote system, an identifier of a product for inventory placement;
determine, based on historical shipment data stored in a database, a region with the highest customer demand for the product;
predict, using a machine learning algorithm, a product tag associated with the product based on at least a temperature associated with the region with the highest customer demand for the product;
modify the database to assign the product tag to the product identifier;
and
assign the product for placement in a fulfillment center, wherein the fulfillment center is associated with a fulfillment center tag corresponding to the product tag.
2. The system of claim 1, wherein the fulfillment center tag is indicative of a temperature associated with a location of the fulfillment center.
3. The system of claim 1, wherein the product tag is dynamically adjustable based on the temperature associated with the region and a date of shipment.

4. The system of claim 2, wherein the fulfillment center tag is dynamically adjustable based on the temperature associated with the location of the fulfillment center.
5. The system of claim 1, wherein the at least one processor is further configured to execute the instructions to:
 - modify the database to assign, using the machine learning algorithm, a fulfillment center tag to a fulfillment center based on at least one of temperature associated with a location of the fulfillment center, temperature associated with a serving area of the fulfillment center, or a parameter associated with the fulfillment center.
6. The system of claim 5, wherein the parameter associated with the fulfillment center comprises at least one of maximum capacity, building restriction, distance between the fulfillment center and the serving area, or number of serving areas.
7. The system of claim 1, wherein the at least one processor is further configured to execute the instructions to:
 - store information associated with the product in the database, wherein the information comprises the product tag assigned to the product; and

train the machine learning algorithm to automatically assign product tags to new products based on the information stored in the database.

8. The system of claim 1, wherein the fulfillment center tag matches the product tag.
9. The system of claim 1, wherein the machine learning algorithm comprises a classification model.
10. The system of claim 1, wherein the at least one processor is further configured to execute the instructions to:
 - evaluate at least one of the product tag or the fulfillment center tag periodically, wherein evaluating at least one of the product tag or the fulfillment center tag comprises:
 - determining the temperature associated with at least one of the product tag or the fulfillment center tag;
 - determining an actual temperature associated with at least one of the region with the highest customer demand for the product or the location of the fulfillment center;
 - calculating a difference between the temperature with the actual temperature; and

replacing at least one of the product tag or the fulfillment center tag with a new tag when the difference exceeds a predetermined threshold.

11. A computer-implemented method for managing inventory placement, the method comprising:
receiving, from a remote system, an identifier of a product for inventory placement;
determining, based on historical shipment data stored in a database, a region with the highest customer demand for the product;
predicting, using a machine learning algorithm, a product tag associated with the product based on at least a temperature associated with the region with the highest customer demand for the product;
modifying the database to assign the product tag to the product identifier; and
assigning the product for placement in a fulfillment center, wherein the fulfillment center is associated with a fulfillment center tag corresponding to the product tag.
12. The method of claim 11, wherein the fulfillment center tag is indicative of a temperature associated with a location of the fulfillment center.
13. The method of claim 11, wherein the product tag is dynamically adjustable based on the temperature associated with the region and a date of shipment.

14. The method of claim 12, wherein the fulfillment center tag is dynamically adjustable based on the temperature associated with the location of the fulfillment center.
15. The method of claim 11, further comprising:
modify the database to assign, using the machine learning algorithm, a fulfillment center tag to a fulfillment center based on at least one of temperature associated with a location of the fulfillment center, temperature associated with a serving area of the fulfillment center, or a parameter associated with the fulfillment center.
16. The method of claim 15, wherein the parameter associated with the fulfillment center comprises at least one of maximum capacity, building restriction, distance between the fulfillment center and the serving area, or number of serving areas.
17. The method of claim 11, further comprising:
storing information associated with the product in the database, wherein the information comprises the product tag assigned to the product; and
training the machine learning algorithm to automatically assign product tags to new products based on the information stored in the database.
18. The method of claim 11, wherein the machine learning algorithm comprises a classification model.

19. The method of claim 11, further comprising:
- evaluating at least one of the product tag or the fulfillment center tag periodically, wherein evaluating at least one of the product tag or the fulfillment center tag comprises:
 - determining the temperature associated with at least one of the product tag or the fulfillment center tag;
 - determining an actual temperature associated with at least one of the region with the highest customer demand for the product or the location of the fulfillment center;
 - calculating a difference between the temperature with the actual temperature; and
 - replacing at least one of the product tag or the fulfillment center tag with a new tag when the difference exceeds a predetermined threshold.
20. A computer-implemented system for managing inventory placement, the system comprising:
- a memory storing instructions; and
 - at least one processor configured to execute the instructions to:
 - receive, from a remote system, an identifier of a product for inventory placement;
 - determine, based on historical shipment data stored in a database, a region with the highest customer demand for the product;

predict, using a classification model, a product tag associated with the product based on at least a temperature associated with the region with the highest customer demand for the product;

modify the database to assign the product tag to the product identifier;

store information associated with the product in the database, the information comprising the product tag assigned to the product and the product identifier;

train the classification model to automatically assign product tags to new products, based on the information stored in the database;

identify a fulfillment center associated with a fulfillment center tag that matches the product tag, wherein:

- the fulfillment center tag is indicative of a temperature associated with a location of the fulfillment center;
- and
- identifying the fulfillment center comprises determining at least one of maximum capacity or building restriction associated with the fulfillment center;

modify the database to assign the product for placement in the identified fulfillment center; and

evaluate at least one of the product tag or the fulfillment center tag periodically, wherein evaluating at least one of the product tag or the fulfillment center tag comprises:

- determining the temperature associated with at least one of the product tag or the fulfillment center tag;

determining an actual temperature associated with at least one of the region with the highest customer demand for the product or the location of the fulfillment center;

calculating a difference between the temperature with the actual temperature; and

replacing at least one of the product tag or the fulfillment center tag with a new tag when the difference exceeds a predetermined threshold.