

CLAIMS

1. A computer-implemented system for efficient distribution of orders based on system parameters, the system comprising:
a memory storing instructions; and
at least one processor configured to execute the instructions for:
 aggregating one or more orders comprising one or more quantities of a plurality of items;
 assigning a subset of the plurality of items to a batch, wherein the plurality of items are assigned to one or more batches;
 determining one or more parameters of a transporting system for the one or more batches;
 determining at least one of location or orientation of the plurality of items in the transporting system based on the one or more parameters of the transporting system;
 transmitting, to a user device for display, the one or more parameters of the transporting system; and
 transferring at least one batch of the one or more batches from a first location in a fulfillment center to a second location in the fulfillment center using an automated transporting system based on the transmitted parameters,
 wherein aggregating the one or more orders is stopped when a quantity of created batches exceeds a quantity of available workers by a predetermined factor.
2. The computer-implemented system of claim 1, wherein aggregating the orders comprises at least one of:
 aggregating the orders over a predetermined period of time;
 aggregating the orders until a user input is received; or
 aggregating the orders based on a number of available workers.

3. The computer-implemented system of claim 1, wherein assigning the subset of the plurality of items to the batch comprises assigning a first item to the batch based on at least one of location of the first item, dimensions of the first item, and a combined weight of the subset of the plurality of items.
4. The computer-implemented system of claim 1, wherein the one or more parameters comprise at least one of a type of a container included in the transporting system; a number of the container included in the transporting system; and a carrying capacity of the transporting system.
5. The computer-implemented system of claim 1, wherein a combined weight of the subset of the plurality of items is less than a carrying capacity of the transporting system.
6. The computer-implemented system of claim 1, wherein the transporting system comprises one or more containers each having a weight capacity and a volume capacity.
7. The computer-implemented system of claim 6, wherein assigning the subset of the plurality of items to the batch comprises:
assigning a portion of the subset of the plurality of items to a first container,
wherein the subset of the plurality of items is assigned to one or more containers based on the weight capacity and the volume capacity.
8. The computer-implemented system of claim 7, wherein a total weight or a total volume of the portion of the subset of the plurality of items assigned to the first container is less than the weight capacity and the volume capacity of the first container by a predetermined ratio.

9. The computer-implemented system of claim 1, wherein assigning the subset of the plurality of items to the batch is based on a weight capacity of the automated transporting system.
10. A computer-implemented method for efficient distribution of orders based on system parameters, the method comprising:
 - aggregating one or more orders comprising one or more quantities of a plurality of items;
 - assigning a subset of the plurality of items to a batch, wherein the plurality of items are assigned to one or more batches
 - determining one or more parameters of a transporting system for the one or more batches;
 - determining at least one of location or orientation of the plurality of items in the transporting system based on the one or more parameters of the transporting system;
 - transmitting, to a user device for display, the one or more parameters of the transporting system; and
 - transferring at least one batch of the one or more batches from a first location in a fulfillment center to a second location in the fulfillment center using an automated transporting system based on the transmitted parameters, wherein aggregating the one or more orders is stopped when a quantity of created batches exceeds a quantity of available workers by a predetermined factor.
11. The computer-implemented method of claim 10, wherein aggregating the orders comprises at least one of:
 - aggregating the orders over a predetermined period of time;
 - aggregating the orders until a user input is received; or
 - aggregating the orders based on a number of available workers.

12. The computer-implemented method of claim 10, wherein assigning the subset of the plurality of items to the batch comprises assigning a first item to the batch based on at least one of location of the first item, dimensions of the first item, and a combined weight of the subset of the plurality of items.
13. The computer-implemented method of claim 10, wherein the one or more parameters comprise at least one of a type of a container included in the transporting system; a number of the container included in the transporting system; and a carrying capacity of the transporting system.
14. The computer-implemented method of claim 10, wherein a combined weight of the subset of the plurality of items is less than a carrying capacity of the transporting system.
15. The computer-implemented method of claim 10, wherein the transporting system comprises one or more containers each having a weight capacity and a volume capacity.
16. The computer-implemented method of claim 15, wherein assigning the subset of the plurality of items to the batch comprises:
assigning a portion of the subset of the plurality of items to a first container,
wherein the subset of the plurality of items is assigned to one or more containers based on the weight capacity and the volume capacity.
17. The computer-implemented method of claim 16, wherein a total weight or a total volume of the portion of the subset of the plurality of items assigned to the first container is less than the weight capacity and the volume capacity of the first container by a predetermined ratio.

18. The computer-implemented method of claim 10, wherein assigning the subset of the plurality of items to the batch is based on a weight capacity of the automated transporting system.
 19. A computer-implemented system for efficient distribution of orders based on system parameters, the system comprising:
 - a memory storing instructions; and
 - at least one processor configured to execute the instructions for:
 - aggregating one or more orders comprising one or more quantities of a plurality of items;
 - assigning a first subset of the plurality of items to a first batch, wherein the plurality of items are assigned to one or more batches;
 - determining one or more parameters of a transporting system for the first batch;
 - determining at least one of location or orientation of the first set of items in the transporting system based on the one or more parameters of the transporting system;
 - transmitting, to a user device for display, the one or more parameters of the transporting system;
 - receiving, from the user device, a first item identifier associated with a first item among the first subset of items;
 - transmitting, to the user device for display in response to the first item identifier, at least one of the location or the orientation of the first item as placed in the transporting system; and
 - transferring at least one batch of the one or more batches from a first location in a fulfillment center to a second location in the fulfillment center using an automated transporting system,
- wherein aggregating the one or more orders is stopped when a quantity of created batches exceeds a quantity of available workers by a predetermined factor.