

CLAIMS

What is claimed is:

1. A system using one or more robots to assist a human in order fulfillment, comprising:
 - a server configured to receive an order comprising an order item;
 - inventory storage operably connected to the server, the inventory storage comprising inventory items;
 - an order robot operably connected to the server, the order robot configured to assist a human to pick an order item from the inventory items; and
 - a human-operated device operably connected to one or more of the server, the inventory storage, and the order robot, the human-operated device configured to assist the human to pick the order item.
2. The system of claim 1, wherein the human-operated device is configured to assist the human to perform one or more of locating the order item, grasping the order item, and placing the order item so as to be accessible to the order robot.
3. The system of claim 1, wherein the order robot is mobile.
4. The system of claim 1, wherein assisting comprises leading the human.
5. The system of claim 1, wherein assisting comprises following the human.

6. The system of claim 1, wherein the order robot comprises an information capture device configured to make an information capture.
7. The system of claim 6, wherein the information capture is usable to perform one or more of detecting a human location and tracking motion of the human.
8. The system of claim 6, wherein the information capture comprises a pick list comprising one or more order items to be picked.
9. The system of claim 1, wherein the order robot is configured, using the information capture, to position itself at an approximate robot position.
10. The system of claim 9, wherein the robot position comprises an approximate robot position relative to the human.
11. The system of claim 9, wherein the robot position comprises a point approximately located on the circumference of a circle centered at a human location of the human.
12. The system of claim 11, wherein the robot position comprises a point that is approximately nearest to the human of points located on the circumference of a circle centered at the human location of the human.

13. The system of claim 11, wherein the circle has a radius that is predetermined by a user.

14. A method using one or more robots to assist a human in order fulfillment, comprising:

receiving, by an order robot, a selection of the order robot by the human;

receiving, by the order robot, from a server, an order comprising an order item;

receiving, by the order robot, from the server, a direction to assist the human to pick the order;

receiving, by the order robot, an assist trigger configured to trigger the order robot to assist the human to pick the order item;

assisting the human, by the order robot, in response to the assist trigger, to pick the order item;

receiving, by the order robot, from the server, an instruction to carry the order item to a final destination; and

carrying the order item to the final destination.

15. The method of claim 14, wherein the step of receiving the direction comprises receiving a direction to assist the human to pick the order item from inventory items comprised in inventory storage.

16. The method of claim 14, further comprising a step, performed after the step of receiving the selection and before the step of receiving the order, of transmitting the selection, by the order robot, to a server.

17. The method of claim 14, further comprising a step, performed after the step of receiving the order, and before the step of receiving the assist trigger, of:

capturing, by the order robot using an information capture device, a pick list comprising one or more items to be picked.

18. The method of claim 17, further comprising a step, performed after the step of capturing the pick list, and before the step of receiving the assist trigger, of:

sending, by the order robot, to the server, the pick list comprising the one or more order items to be picked.

19. The method of claim 14, wherein the step of receiving the selection comprises receiving the selection through an information capture device comprised in the order robot.

20. A method using one or more robots to assist a human in order fulfillment, comprising:

receiving, by a server, an order comprising an order item;

receiving, by the server, a selection by the human of the order robot;

sending the order, by the server, to one or more of an order robot and a human-operated device available to the human;

sending, by the server, to the order robot, a direction to assist the human to pick the order item;

determining, by the server, that the order is nearly complete;

determining, by the server, that an order robot replacement suitable for fulfilling a next order has not yet been sent;

sending a dispatch instruction, by the server, to the order robot replacement instructing its dispatch;

determining, by the server, that the order is complete; and

instructing the order robot, by the server, to carry the order item to a final destination.