CLAIMS

What is claimed is:

1. A system for order fulfillment using one or more robots, comprising:

a server configured to receive an order comprising an order item;

inventory storage operably connected to the server, the inventory storage comprising order items;

an actor robot operably connected to and selected by the server, the actor robot configured to perform one or more of picking the order item from inventory storage, moving the order item, and positioning the order item; and

an order robot operably connected to the server, the order robot configured to collect the order item**,** wherein the order item is positioned by the actor robot so as to be accessible to the order robot, so as to perform order fulfillment using one or more robots.

2. The system of claim 1, wherein at least one robot communicates position information to the server.

3. The system of claim 2, wherein using the position information, the server generates a currently planned path, wherein the server transmits the currently planned path to the communicating robot.

4. The system of claim 1, wherein the inventory storage comprises one or more of an inventory robot, a box, a bin, a fixed shelf, a non-fixed shelf, a rack, a conveyor, a warehouse, another inventory storage location, and other inventory storage.

5. The system of claim 1, wherein the actor robot is configured to pick and move the order item.

6. The system of claim 1, wherein the actor robot is stationary.

7. The system of claim 1, wherein the actor robot is mobile.

8. The system of claim 6, wherein at least one order robot is configured to move from a first stationary actor robot to a second stationary actor robot, picking at least two order items.

9. The system of claim 7, wherein the mobile actor robot is configured to perform one or more of receiving from the server and generating a currently planned path for the actor robot.

10. The system of claim 1, further comprising a packer robot configured to pack an order item into a container to be shipped.

11. The system of claim 1, wherein at least one of the actor robots is configured to

transfer inventory from one or more of a robot and inventory storage to one or more of a robot and inventory storage.

12. A system for order fulfillment using one or more robots, comprising:

a server configured to receive an order comprising an order item;

an inventory robot operably connected to the server, the inventory robot comprising order items;

an actor robot operably connected to and selected by the server, the actor robot configured to perform one or more of receiving from the server and generating a currently planned path for the actor robot, the actor robot further configured to perform one or more of picking the order item, moving the order item, and positioning the order item; and

an order robot operably connected to the server, the order robot configured to collect the order item**,** wherein the order item is positioned by the actor robot so as to be accessible to the order robot, so as to perform order fulfillment using one or more robots.

13. A method for order fulfillment using robots, comprising:

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

selecting, by the server, a task robot to perform a task relating to fulfillment of the order;

determining, by the server, a destination for the task robot;

receiving, by the server, position information from the task robot;

determining, by the server, using the position information, that the task robot is positioned so as to be ready to perform the task;

transmitting, by the server, one or more of the task and the destination to the task robot; and

receiving, by the server, from the task robot, a task confirmation confirming that the task has been completed.

14. The method of claim 13, further comprising the steps, performed after the step of receiving the order and before the step of selecting, of:

computing, by the server, a currently planned path configured to enable the task robot to reach the destination while optimizing criteria of interest; and

transmitting, by the server, the currently planned path to the task robot.

15. The method of claim 13, wherein the task robot comprises one or more of an inventory robot, an actor robot, an order robot, and a packer robot.

16. The method of claim 15, wherein the task robot comprises an inventory robot configured to perform one or more of picking and moving the order item.

17. The method of claim 15, wherein the task robot comprises an actor robot configured to perform one or more of picking the order item, moving the order item, and positioning the order item.

18. The method of claim 15, wherein the task robot comprises an order robot configured to collect the order item**.**

19. A method for order fulfillment using robots, comprising:

receiving, by a task robot, from a server, one or more of a selection of the task robot and a destination;

computing, by the task robot, a currently planned path configured to enable the task robot to reach the destination while optimizing criteria of interest;

executing, by the task robot, the currently planned path;

communicating position information, by the task robot, to the server;

determining, by the task robot, using the position information, that the task robot is positioned so as to be ready to perform a task relating to fulfillment of an order;

receiving, by the task robot, from the server, the task;

performing the task, by the task robot; and

sending, to the server, by the task robot, a task confirmation confirmed that the task has been completed.

20. A method for order fulfillment using robots, comprising:

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

selecting, by the server, a task robot to perform a task relating to fulfillment of the order;

receiving, by the task robot, from the server, the selection of the task robot;

determining, by the server, a destination for the task robot;

computing, by one or more of the server and the task robot, a currently planned path for the task robot configured to enable the task robot to reach the destination while optimizing criteria of interest;

transmitting, by the server, the currently planned path to the task robot;

receiving, by the task robot, from the server, the currently planned path;

executing, by the task robot, the currently planned path;

communicating position information, by the task robot, to the server;

receiving, by the server, position information from the task robot;

determining, by one or more of the server and the task robot, using the position information, that the task robot is positioned so as to be ready to perform the task;

transmitting, by the server, the task to the task robot;

receiving the task, by the task robot, from the server;

performing the task, by the task robot;

sending, to the server, by the task robot, a task confirmation confirmed that the task has been completed;

receiving, by the server, from the task robot, the task confirmation;

and determining, by the server, that the task robot is not to be sent to another destination.