CLAIMS

1. An automated inventory control system, comprising:

one or more storage devices containing a plurality of storage locations for storing objects;

a first predefined location for receiving one or more objects, the first predefined location including a sensing system comprising one or more cameras configured to obtain images of the plurality of storage locations, and/or one or more RF sensors configured to detect RFID tags, wherein the sensing system is configured to sense when an object is deposited at the first predefined location;

a second predefined location for receiving one or more objects; the second predefined location including a sensing system comprising one or more cameras configured to obtain images of the plurality of storage locations, and/or one or more RF sensors configured to detect RFID tags, wherein the sensing system is configured to sense when an object is deposited at the second predefined location;

one or more processors configured to:

when an object is deposited at the first predefined location, automatically assign a first status to the object, cause transmission of a first alert indicating the first status of the deposited object,

distribute the first alert to users in response to the deposited object, wherein the first alert contains information regarding process instructions associated with the assigned first status, and

track with the sensing system a plurality of transactions associated with the deposited object based on data including object issue and return data, object statuses, user access, and/or work location, after a user checks the deposited object out of the first predefined location, and

when an object is deposited at the second predefined location, automatically assign a second status to the object, cause transmission of a second alert indicating the second status of the deposited object, and

distribute the second alert to users in response to the deposited object, wherein the second alert contains information regarding process instructions associated with the assigned second status.

2. The automated inventory control system of claim 1, wherein the first predefined location is configured to permit the user that received the transmitted first alert indicating the first status of the deposited object to check the deposited object out of the first predefined location.

3. The automated inventory control system of claim 1,

wherein the data processor is configured to automatically assign the first status based on information sensed by the sensing system of the first predefined location corresponding to the deposited object.

4. The automated inventory control system of claim 1,

wherein the sensed information corresponds to visual markings on a container that contains the deposited object.

5. The automated inventory control system of claim 1, further comprising:

an input device configured to receive user input;

wherein the data processor is configured to automatically assign the first status based on user input received by the input device.

6. The automated tool control system of claim 1, further comprising:

a third predefined location for receiving one or more objects;

wherein the first and third predefined locations each correspond to a respective status, such that an object deposited at the first predefined location is automatically assigned a different first status than when deposited at the third predefined location.

7. The automated inventory control system of claim 1, wherein the sensing systems of the first and second predefined locations each further comprise at least one of:

one or more electrical connections configured to connect to respective objects,

one or more scales configured to detect weights of respective objects,

an array of contact sensors configured to detect a shape of an object,

one or more ultrasonic sensors, each comprising an emitter configured to emit sound waves and a detector configured to detect sound waves, or

one or more magnetic inductive sensors configured to detect metallic objects.

8. The automated inventory control system of claim 1, further comprising:

an input device configured to receive user input;

wherein the data processor is further configured to, based on user input received by the input device, clear the automatically assigned status of the object and assign a third status to the object based on the user input.

9. A method for an automated inventory control system, comprising the steps of:

storing an object in a storage location of a storage device;

receiving the object in a first predefined location, the first predefined location including a sensing system comprising one or more cameras configured to obtain images of the plurality of storage locations, and/or one or more RF sensors configured to detect RFID tags;

based on receipt of the object in the first predefined location, automatically assigning a first status to the object;

transmitting an alert indicating the first status of the deposited object;

distributing the first alert to users in response to the deposited object, wherein the first alert contains information regarding process instructions associated with the assigned first status;

checking the deposited object out of the first predefined location;

tracking with the sensing system a plurality of transactions associated with the deposited object based on data including object issue and return data, object statuses, user access, and/or work location, after the user checks the deposited object out of the first predefined location;

receiving the object in a second predefined location, the second predefined location including a sensing system comprising one or more cameras configured to obtain images of the plurality of storage locations, and/or one or more RF sensors configured to detect RFID tags;

based on receipt of the object in the second predefined location, automatically assigning a second status to the object;

transmitting a second alert indicating the second status of the deposited object;

distributing the second alert to users in response to the deposited object, wherein the second alert contains information regarding process instructions associated with the assigned second status;

checking the deposited object out of the second predefined location;

receiving the object in the storage location of the storage device.

10. The method of claim 9, wherein a user receives the transmitted first alert indicating the first status of the deposited object and, in response to receiving the transmitted first alert, checks the deposited object out of the first predefined location.

11. The method of claim 9, further comprising the step of:

sensing, at the first predefined location, information corresponding to the deposited object,

wherein the first status is automatically assigned based on the information sensed at the first predefined location.

12. The method of claim 11,

wherein the sensed information at the first predefined location corresponds to visual markings on a container that contains the deposited object.

13. The method of claim 9, further comprising the step of:

receiving user input at an input device,

wherein the first status is automatically assigned based on user input received by the input device.

14. The method of claim 9, further comprising the step of:

storing a second object in a second storage location of the storage device;

receiving the second object in a third predefined location,

receiving, in a fourth predefined location, a replacement object corresponding to the second object;

based on receipt of the replacement object in the fourth predefined location, automatically assigning a status to the replacement object;

transmitting an alert indicating the status of the replacement object;

checking the replacement object out of the fourth predefined location;

receiving the replacement object in the second storage location of the storage device.

15. The method of claim 9,

wherein receipt of the object at the first and second predefined locations are detected by sensing systems that each further comprise at least one of:

one or more electrical connections configured to connect to respective objects,

one or more scales configured to detect weights of respective objects,

an array of contact sensors configured to detect a shape of an object,

one or more ultrasonic sensors, each comprising an emitter configured to emit sound waves and a detector configured to detect sound waves, or

one or more magnetic inductive sensors configured to detect metallic objects.

16. The method of claim 9, further comprising the step of:

receiving user input at an input device;

based on the received user input, clearing the automatically assigned status of the object and assigning a third status to the object.

17. A non-transitory computer-readable medium storing executable instructions for carrying out a process comprising the steps of:

determining that an object is present in a storage location of a storage device;

determining that the object is present in a first predefined location, the first predefined location including a sensing system comprising one or more cameras configured to obtain

images of the plurality of storage locations, and/or one or more RF sensors configured to detect RFID tags;

based on the determination that the object is present in the first predefined location, automatically assigning a first status to the object;

causing the transmission of a first alert indicating the first status of the deposited object;

distributing the first alert to users in response to the deposited object, wherein the first alert contains information regarding process instructions associated with the assigned first status;

tracking with the sensing system a plurality of transactions associated with the deposited object based on data including object issue and return data, object statuses, user access, and/or work location, after the deposited object is checked out of the first predefined location;

determining that the object is present in a second predefined location, the second predefined location including a sensing system comprising one or more cameras configured to obtain images of the plurality of storage locations, and/or one or more RF sensors configured to detect RFID tags;

based on the determination that the object is present in the second predefined location, automatically assigning a second status to the object;

causing the transmission of a second alert indicating the second status of the deposited object;

distributing the second alert to users in response to the deposited object, wherein the second alert contains information regarding process instructions associated with the assigned second status;

determining that the object is present in the storage location of the storage device after the deposited object is checked out of the second predefined location.

18. The medium of claim 17, the process further comprising the step of:

allowing a user who received the transmitted alert indicating the first status of the deposited object to check the deposited object out of the first predefined location.

19. The medium of claim 17, the process further comprising the steps of:

receiving sensed information corresponding to the deposited object at the first location,

wherein the first status is assigned based on the sensed information.

20. The medium of claim 19,

wherein the sensed information at the first predefined location corresponds to visual markings on a container that contains the deposited object.

21. The medium of claim 17,

wherein the first status to the object is automatically assigned based on user input received by an input device.

22. The medium of claim 17, the process further comprising the steps of:

determining that a second object is present in a second storage location of the storage device;

determining that the second object is present in a third predefined location,

determining that a replacement object corresponding to the second object is present in a fourth predefined location;

based on the determination that the replacement object is present in the fourth predefined location, automatically assigning a status to the replacement object;

causing the transmission of an alert indicating the status of the replacement object;

determining that the replacement object is present in the second storage location of the storage device after the replacement object is checked out of the fourth predefined location.

23. The medium of claim 17,

wherein determination of the object at the first and second predefined locations are based on information received from the sensing systems that each further comprise at least one of:

one or more electrical connections configured to connect to respective objects,

one or more scales configured to detect weights of respective objects,

an array of contact sensors configured to detect a shape of an object,

one or more ultrasonic sensors, each comprising an emitter configured to emit sound waves and a detector configured to detect sound waves, or

one or more magnetic inductive sensors configured to detect metallic objects.

24. The medium of claim 17, the process further comprising the step of:

receiving user input from an input device;

based on the received user input, clearing the automatically assigned status of the object and assigning a third status to the object.