Claims

1. A system for inspecting items in transit through a transit facility, wherein the system comprises:

a plurality of data collection units located at a plurality of transit facilities;

a decision entity, in connection with the data collection unit at a selected one of the transit facilities;

a server connectable to each of the data collection units, the server comprising:

a data store storing inspection data, obtained from the data collection units, indicative of instances of item inspection at the plurality of transit facilities; and

a processor coupled to the data store and operable to update the data store based on data gathered at the data collection units;

a prediction system, comprising a machine learning element, and being configured to obtain input data for an item in transit and to determine therefrom a predicted level of inspection for said item; and

a computer implemented conclusion entity configured to determine a final level of inspection for an item in transit based on an indication of: (i) the predicted level of inspection for said item, (ii) a decided level of inspection for said item, and (iii) a random element;

wherein, for an item in transit through a transit facility, the system is configured to:

obtain item data providing an indication of the predicted level of inspection for the item and provide said item data to the decision entity;

obtain, from the decision entity, the decided level of inspection for the item;

control inspection of the item according to the determined final level of inspection for the item;

wherein controlling inspection of the item in transit comprises operating a detection device at the transit facility to obtain inspection data for the item in the event that the final level of inspection indicates that the item is to be inspected, wherein the detection device is selected based on the determined final level of inspection for the item;

wherein the detection device is selected based on the final level of inspection for the item;

wherein the system is configured to train the machine learning element of the prediction system based on: (a) the final level of inspection assigned to the item in transit, and (b) inspection data obtained from inspection of the item

2. The system of claim 1, wherein controlling inspection comprises controlling movement of the item at the transit facility.

3. The system of claim 2, wherein controlling movement comprises moving the item to a location selected based on the final level of inspection for the item.

4. The system of any preceding claim, wherein the final level of inspection is selected based also on the stored inspection data.

5. The system of any preceding claim, wherein the final level of inspection is selected based also on: (iii) a transit inspection metric indicative of the stored instances of item inspection at the plurality of transit facilities, and (iv) a decision entity metric indicative of stored instances of item inspection associated with the decision entity.

6. The system of any preceding claim, wherein the decision entity is configured to provide the decided level of inspection based on inspection data associated with the item, and the predicted level of inspection.

7. The system of claim 1, wherein the system is for monitoring operation of human operators at a transit facility, wherein the decision entity is computer implemented and is configured to provide output to the human operator for use by the human operator in deciding a level of inspection for the item; and

wherein, for an item in transit through a transit facility, the system is configured to:

identify instances in which the predicted level of inspection for the item differs from the decided level of inspection for the item; and

for each said instance, in the event that a monitoring metric is greater than a selected threshold, output a command signal to investigate the decided level of inspection, wherein the monitoring metric is indicative of a likelihood that the difference in level of inspection should be investigated and is determined based on an indication of: (i) the predicted level of inspection for the item, and (ii) the decided level of inspection for the item.

8. The system of claim 7, wherein the system is configured to determine whether or not the decided level of inspection was correct based on an outcome of the inspection of the item, for example the system is configured to output an alert in the event that the decided level was

not correct.

9. The system of any of claims 7 to 8, wherein the monitoring metric is determined based on the stored inspection data.

10. The system of any of claims 7 to 9, wherein the monitoring metric is determined based also on: (iii) a transit inspection metric indicative of the stored instances of item inspection at the plurality of transit facilities, and (iv) a decision entity metric indicative of stored instances of item inspection associated with the decision entity.

11. The system of any of claims 7 to 10, wherein the monitoring metric is determined based also on a random element.

12. The system of any of claims 7 to 11, wherein the system is configured to determine the monitoring metric using a statistical model which takes into account data indicative of at least one of: (i) transit data for the item, (ii) temporal or seasonal data; (iii) inspection data obtained from a detection device operating on the item; (iv) data from a computer-based analysis of the inspection data.

13. A method of controlling inspection of an item in transit through a transit facility, wherein the transit facility is part of a system comprising:

a plurality of data collection units located at a plurality of transit facilities;

a decision entity, in communication with data collection units at a selected one of the transit facilities; and

a server connectable to each of the data collection units, the server comprising:

a data store storing inspection data, obtained from the data collection units, indicative of instances of item inspection at the plurality of transit facilities; and

a processor coupled to the data store and operable to update the data store based on data gathered at the data collection units;

a prediction system, comprising a machine learning element, and being configured to obtain input data for an item in transit and to determine therefrom a predicted level of inspection for said item; and

a computer implemented conclusion entity configured to determine a final level of inspection for an item in transit based on an indication of: (i) the predicted level of inspection for said item, (ii) a decided level of inspection for said item, and (iii) a random element;

wherein the method comprises:

obtaining item data providing an indication of a predicted level of inspection for

the item and providing said item data to the decision entity;

obtaining, from the decision entity, the decided level of inspection for the item;

operating the computer implemented conclusion entity to determine the final level of inspection for the item; and

controlling inspection of the item according to the determined final level of inspection for the item, wherein controlling inspection of the item in transit comprises operating a detection device at the transit facility to obtain inspection data for the item in the event that the final level of inspection indicates that the item is to be inspected, wherein the detection device is selected based on the final level of inspection;

wherein the system is configured to train the machine learning element of the prediction system based on: (i) the final level of inspection assigned to the item in transit and (ii) inspection data obtained from inspection of the item.

14. A method of monitoring operation of human operators at a transit facility, the method comprising:

the method of claim 13, wherein the decision entity is computer implemented and is configured to provide output to the human operator for use by the human operator in deciding a level of inspection for the item;

wherein, for an item in transit through a transit facility, method comprises:

identifying instances in which the predicted level of inspection for the item differs from the decided level of inspection for the item; and

for each said instance, in the event that a monitoring metric is greater than a selected threshold, outputting a command signal to investigate the decided level of inspection, wherein the monitoring metric is indicative of a likelihood that the difference in level of inspection should be investigated and is determined based on an indication of: (i) the predicted level of inspection for the item, and (ii) the decided level of inspection for the item.

15. A computer readable non-transitory storage medium comprising a program for a computer configured to cause a processor to perform the method of any of claims 13 to 14.