

METHODS AND SYSTEMS FOR DETECTION OF A CONSUMABLE IN A SYSTEM

BACKGROUND

[0001] Generally, there is an increasing need to automate systems to increase efficiency. For example, advances in automated biological sample processing instruments allow for quicker, more efficient, and high throughput analysis of samples. These types of systems may assay a greater number of samples than previous systems. As such, samples undergoing various assays are labeled or marked with identifiers.

[0002] Previously, an operator of the system or instrument may have had to manually track and validate samples by reading the identifiers on sample containers, racks, or assay chips. This type of manual tracking and validation can be labor-intensive and include a high probability of operator error such as sample mistracking, or improper testing. Furthermore, the greater number of samples desired to be assayed would be more time intensive and cumbersome. In other systems, a system may not be able to begin a run until it is confirmed that a consumable has been properly loaded into the system.

[0003] Other more automated systems may scan for identifiers to track and validate samples before testing. However, these systems often need additional components. Furthermore, the identifiers may be misread or unreadable by the systems.

SUMMARY

[0004] ~~A-In an aspect of the present invention, a computer-implemented method for detecting a presence of an object-of-interest in a system is provided. The method includes imaging the first object-of-interest including an identifier, wherein the imaging generates a first set of image data and determining the portion of the image data including the identifier based on a predetermined location. The method further includes dividing the portion of the image data including the identifier into at least two segments and identifying the first object-of-interest based on the two identifiers. Next, the a presence of the object-of-interest is determined by determining if intensity values within each segment exceed a threshold.~~

[0004a] In another aspect of the present invention, there is provided a system for detecting a presence of an object-of-interest in a system, the system comprising:

an optical detector configured to image the first object-of-interest including an identifier, wherein the imaging generates a first set of image data; and

a processor configured to:

determine the portion of the image data including the identifier based on a predetermined location, divide the portion of the image data including the identifier into at least two segments, and determine a presence of the object-of-interest by determining if intensity values within each segment exceed a presence threshold.

[0004b] In another aspect of the present invention, there is provided a computer-readable storage medium encoded with processor executable instructions, the instructions including instructions for:

imaging the first object-of-interest including an identifier, wherein the imaging generates a first set of image data;

determining the portion of the image data including the identifier based on a predetermined location;

dividing the portion of the image data including the identifier into at least two segments; and determining a presence of the object-of-interest by determining if intensity values within each segment exceed a presence threshold.