

ABSTRACT

DESIGN AND REALIZATION OF CONVEYOR TO SORT ITEM USING PATTERN RECOGNITION OF SHAPE AND COLOR WITH WEBCAM

By

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In this paper designed development conveyor to sort the items, where items to be sorted will recognized their pattern. The research is an continuation of the previous research that designed a conveyor to distinguish the shape and length of beams using ultrasonic sensor. The design of conveyor can recognize the pattern of circular and oval or not either. After pattern recognized, then the color will be recognize too, so the conveyor can recognize an items based pattern of shape and color that may be subject to further action, the items are passed or discarded.

The method used for identifying shape an object is calculated value of matrix, if matrix have been obtained then classified into category matrix circle or oval. In color recognition method calculation used Hue of an image, when value of pixel have been obtained then the image can be classified by color.

Sorting items successfully carried out accordance given initialization, when initialization given is oval shape then oval shaped object to be passed, and otherwise it will be discarded. It is also common in sorting colored object, if given the red initialization object that has a red color to be passed otherwise it will be discarded. Obtained an error rate 10% on recognition of a circular shape, 10% on recognition of an oval shape, 0% on recognition of the color red, 10% green color recognition and 10% on recognition of yellow.

Keyword: Matrix, Pixel, Conveyor