An Expiry Date Detection Through Bar Code Using Image Processing

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Abstract- *The growing number of people living in relative poverty is leading to an increase in food insecurity in Europe. Cities and regions are devising local policies to ensure food security for their inhabitants and promote resilient food systems. Within this context, it becomes imperative to keep track of the expiration date of food products in order to identify and reduce waste. Many retail stores still use Barcodes including only the Global Trade Identification Number (GTIN). It becomes then necessary to acquire the expiry date of a product displayed on a shelf by means other than barcode.*

I. INTRODUCTION

Few products can last forever, especially when it comes to food and medicine. To give consumers an indication of when the product must be used by, an expiration date is usually printed on the product packaging. Such information can be easily accessible by sighted people but not so for the visually impaired. While the visually impaired can ask as sighted person to help them to read the expiration date, such human assistances not always available. When staying at home alone, if the visually impaired consumes some expired food or takes some expired medication, the result could even be life-threatening. The growing number of people living in relative poverty is leading to an increase in food insecurity in Europe. Cities and regions are devising local policies to ensure food security for their inhabitants and promote resilient food systems. Within this context, it becomes imperative to keep track of the expiration date of food products in order to identify and reduce waste. New standards of barcode such as theGS1 Data Bar, also known as EAN-128, introduce the possibility of including product validity and expiration date within the barcode, however this requires the usage of an extended barcode format on the product. Many retail stores still use Barcodes including only the Global Trade Identification Number (GTIN). It becomes then necessary to acquire the expiry date of a product displayed on a shelf by means other than barcode reading. In order to extract the text in such images, many algorithms have been proposed. Most partition the image to search for text region candidates and then group the neighboring regions using distinctive features of text characters.

II. PROBLEM STATEMENT

To design and develop Secured system for identification of the Expiry date of a product through the Barcode by using Image Processing technology.

III. PROJECT SCOPE

Future prospects aim to deploy this technique in a real time application that can be used to effectively collect identify the Expiry dates on the products in real time and reduce the instances of any mishaps significantly.

- Bar code authentication using Image Processing
- Expiry date alert rising Bar code authentication through web camera is economically feasible task
- Using image processing for the barcode authentication is the new idea
- Alerting user for the expiry date is the best thing in consumer priority

IV. MODULE DESCRIPTION

The proposed methodology of our system can be explained through following modules:

Step 1: Image Object

➢Input : Item Barcode Image

➢Process : RGB Model

➢Output : Image Object

Step 2: Grayscale Conversion

➢Input : Image Object

➢Process: Averaging RGB model

➢Output: GrayScale conversion

Step 3: Binary Conversion

➢Input: Grayscale Image

➢Process: Threshold handling

➢Output: Binary Image

Step 4: Co-Axis Array Formation

➢Input: Binary Image

➢Process: Bit Array Formation

➢Output: Axis Array

Step 5: Pearson Correlation

➢Input: Axis Array

➢Process: Correlation Estimation

➢Output: Barcode authentication and expiry date identification

V. CONCLUSION

In this Publication the various problems faced by the people who have unknowingly consumed the expired products have been tried to be reduced. Many people have who have consumed the expired products have become extremely ill and some of them have also lost their lives. This is due to the fact that the perishable products have a destined time to be consumed which is defined by the expiry date. After which the products become unfit for consumption. Some of the products also have the tendency to become extremely toxic after being expired that have also led to disastrous results when people have tried to use them past their expiry date. Therefore, an effective and reliable expiry date identification have been proposed in this publication. The proposed methodology utilizes the machine learning paradigm to achieve its goals. A webcam is utilized for this purpose which captures the image of the barcode and performs the grayscale and binary conversion to the frames that are received. The barcode is authenticated through the use of the co axis formation and Pearson correlation. The presented technique effectively and reliably identifies the expiry date.

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