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A Review on Scanner Applications

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Abstract: Recent scanning advances have enabled a variety of applications across all walks of life. One place to apply is the separation of new products .This paper shows the latest improvements in scanning the application. These applications are used in normal life. Many fruit scanning applications to scan the amount of fruit ex. vitamins, proteins etc. For the past 15 years, hyper spectral imaging has emerged as a new generation of food quality sensor technology and safety tests, as it incorporates major imaging and spectroscopy features, enabling both visual and location information to detect an object simultaneously. This app helps speed up the process to improve accuracy and efficiency and reduce time. This photo collection from camera and gallery to show fruit name and brief description for user. This app incorporates three analytical methods: color-based, shape-based and size-based.

Keywords: fruit, scanner, pattern recognition, analysis, data base.

I.INTRODUCTION

The fruits recognition system could be applied as an image contents descript or which is able to describe the low level visual features or contents of the fruit images for the CBIR system. The most popular analysis techniques that have been used for both recognition and classifications of two dimensional (2D) fruit images are color-based and shape-based analysis methods [1]. However, different fruit image may have similar or identical color and shape values. Hence, using color or shape features analysis methods are still not robust and effective enough to identify and distinguish fruits images.

Therefore, a recognition approach for 2D fruit images is develop , which combines color-based, shape-based, and size-based methods in order to increase the accuracy of the recognition result. System recognizes provided 2D query fruit image by extracting features values, including color, shape and size and computing extracted features values to measure the distance between the computed features values of query image with the stored standard features values of every fruit example [2][3]. Fruit Recognition System is an attractive and valuable system that has been developed based on various motivations. Hence, fruit recognition system is developed to research on pattern recognition system, especially on fruits spherical pattern recognition and classification system. In this system, a pattern recognition system is designed that is combination of three different features together, including color, shape, and size to perform sequential pattern classification.

This method can be applied as a useful tool for other object classification and recognition problems. The software solution is able to serve as a useful tool in a variety of fields, such as education, image retrieval, and plant science research. It can be applied for educational purpose to enhanced learning, especially for small kids and Down syndrome patients, of fruits pattern recognition and fruits features classification based on the fruit recognition result. It can be used as a fruit recognition system in grocery store to automate labeling and computing the price [4]. The fruits recognition system could be useful for the plant scientists. The shape and size values of the fruit images that have been computed could assist the plant scientist to do further analysis on variation in morphology of fruit shape in order to help them understand the genetic and molecular mechanisms of the fruits.

II.LITERATURE SURVEY

i.Fruit freshness detection

This method will be efficient enough because before the intake of an edible this process automatically displays the entire status of any fruits and vegetables. The consumer can choose any quality of an edible depending upon their own

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needs. So by obtaining this process the food wastage can be reduced and will be able to achieve pollution less environment [1].

ii.Fruit quality determination

The TT mode ultrasonic system has been developed for fruit quality determination. In addition to the ultrasonic system, image processing based on the machine vision system was used to determine the quality of the fruit [2].

iii.A Fruit Quality Management System

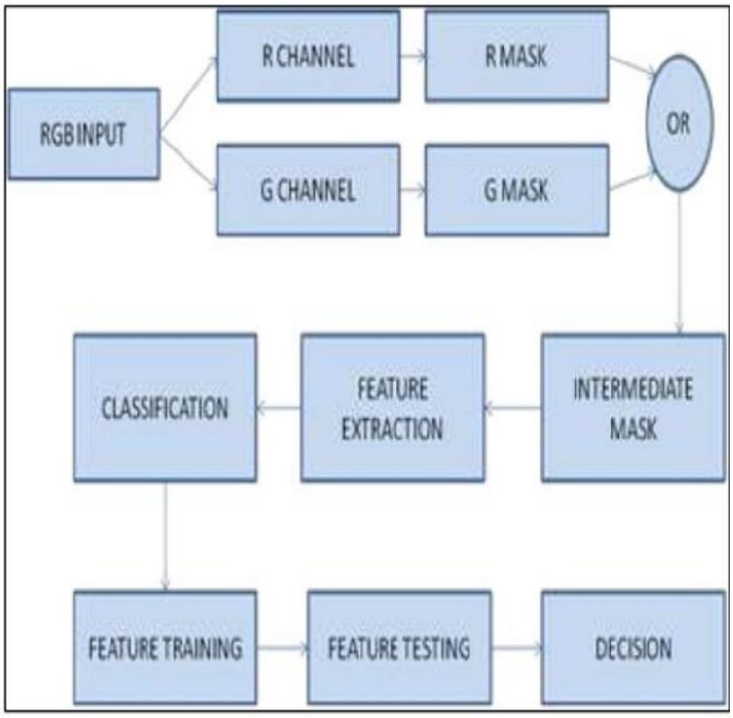
This work presents new integrated techniques for sorting and grading of different fruits. Generally image capture is a big challenge as there is a chance of high uncertainty due to the external lighting conditions, so we are taking the advantage of gray scale image which are less effected to the external environment changes as well as beneficial for finding size of a fruit [3].

iv.fruit and vegetable classification techniques

The sensors used for the data acquisition in the food industry are found constrained due to substantial limitations in various applications for example; some of the applications are non-destructive in Nature, have environmental occlusions, presents inter and interclass similarities and complex features. Other significant limitation on the use of multiple sensors in the same application of fruit and vegetable analysis is different nature of data produced by them [4].

III.SYSTEM ARCHITECTURE

To determine the recognition of the fruit we follow the method one by one. In this we first take an RGB input of fruit. After then divide this into B channel and R channel which further converted to R mask and B mask images of fruit. After taking intermediate mask from the R mask and B mask then take intermediate fruit area and intermediate color indices then removal of shadow area and final mask is taken which is combined with RGB input, final fruit area are obtained. Segmented fruit are taken from above image, take R channel and binary R of that image



Block diagram of fruit detection

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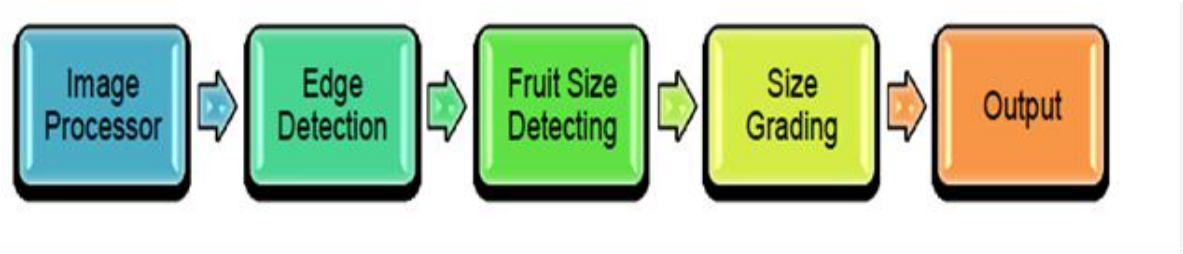
IV.PROCESSING FLOW



Fruit image size detecting and grading flow [3]

Take apple as the processing example, according to [3], the apple size is its diameter, which is the longest distance in the apple's cross section. So the detecting program is focused on how to calculate the diameter in an apple side view image. The fruit image size detecting and grading processing flow is shown in Fig.3.

V.CONCLUSION

Through image processing can identify fruit characteristics in order to optimize selection processes in the agricultural industry. Applying image processing techniques is possible establish fixed recognition parameters of a fruit. Image processing in real time is possible improve classification and selection beginning with defined characteristics. With systematized classification techniques, is can establish an objective classification of a product, mainly agricultural products where selection in most cases is subjective.

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