



Automatic Device for Analysing and Detecting Rotten and Infected Fruits

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ABSTRACT: Farmers are not able to detect and determine fruit disease and cause of fruit disease. Also, fruits are more infected during cultivation, due to changing in environmental conditions and climate. The earlier process of detecting fruit disease was very time consuming and also failed to give information about the type of disease. Using the proposed fruit disease detection system, the farmer can determine or find the type of fruit disease and cause of that fruit disease, and get preventive suggestions from the system. The apple fruit has been taken as a sample. Artificial Neural Network(ANN) has been used to classify and categorize the disease. This system will benefit farmers and fruit keeper across India.

KEYWORDS: Image aquisition , Segmentation ,Processing ,Remote sensing

I. INTRODUCTION

Infections of fruit unknown to the farmers. This causes a major portion of the produce to be infected, and in turn cause economic losses to the farmer and fruit keeper. India produces apple fruit in considerable quantity. Out of all the deciduous fruits, apple is the most important in terms of production and extent. Apple scabs are gray or brown corky spots. Apple rot infections produce apparent circular brown or black spots which may often be overshadowed by a red faded ring.

We intend to develop a system which identifies such diseased fruits, and also determines its cause, effect and prevention for farmers. The system can be used in the agricultural industry to identify the factors which favour the disease growth, and to find solutions to curb this growth. The agricultural officer, who will test his fruit image in the system and give information to the farmer to improve his production of fruit. This system returns accurate results and reason of the losses. For this system we are considering the fruit apple.

Defective food products have a common occurrence on the stores. Even after paying sum amount of money still customers are dissatisfied with the products . To a human eye they may fill healthy and fresh fruit but only after cutting or eating it, the customers know its quality. This also affects the profitability for the producers and customers . Thus, there is a need to implement application which will identify the quality of fruit, disease of fruits . by using this application customers get only the best quality of fruit for the money they pay. The quality , disease of fruits are checked using technologies image processing algorithm ,k-means algorithm etc.

Due to change in climate and due to of global warming occurs difficulties in Agricultural production .Many people have less pure arable land, and other side increasing number of fruit diseases and pests which cause the use of much more chemicals and which requires more money.

II. EXISTING SYSTEM

Presently, work has been done more in the context of leaf diseases and less work has been done on fruits. In the existing system, input images are classified and mapped to their respective disease categories on the basis of three feature vectors namely, color, texture and morphology

In existing system we not use any disease detection system,only assume that fruit is in good or bad condition.

In the earliest system there is no graphical representation of fruit diseases apart from we are going to produce graphical representation of fruit disease in our present system.

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In Earliest System accept input as fruit image and it passed for image processing .After Image processing fruit image filters in two parts First one resize of fruit image and image segmentation .All features of image extracted in image extraction phase. Fig.1 shows flowchart of existing system.

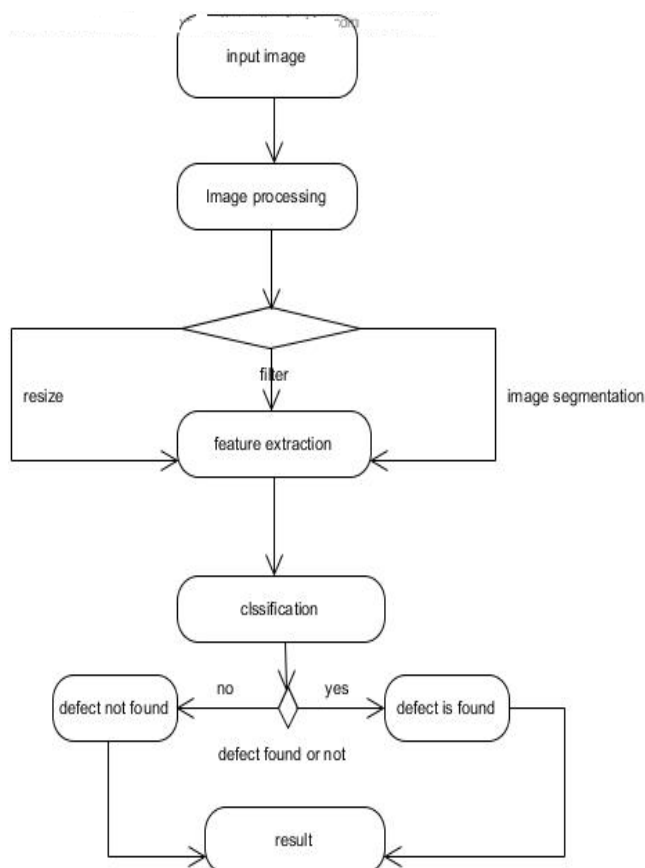


Figure 1 . Flow chart of the existing work

III. PROPOSED SYSTEM

The system identifies the disease of the fruit and it represents the graphical representation of disease.

The system goes a step further and recommends remedies to lessen the occurrence of the disease.

The system identifies the fruit disease in percentages format.

The proposed system detect the type of disease with greater accuracy due to the laerninig is involved. after it has identified the type of disease, the system suggest a way and mean to prevent occurance of disease by taking in to consideration and other relevant factors.

In proposed System we are going to use several methodology techniques, algorithm also have to implement it step by step.

Proposed model contains following steps:

1. Data Collecting
2. Data pre processing
3. Data processing
4. Prediction

In proposed System we get input as image with help of external camera or android phone camera and then we proceed For further image processing part.

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After complete image processing we deliver result in terms of graphical and percentage format. Fig.2 shows System architecture if proposed system.

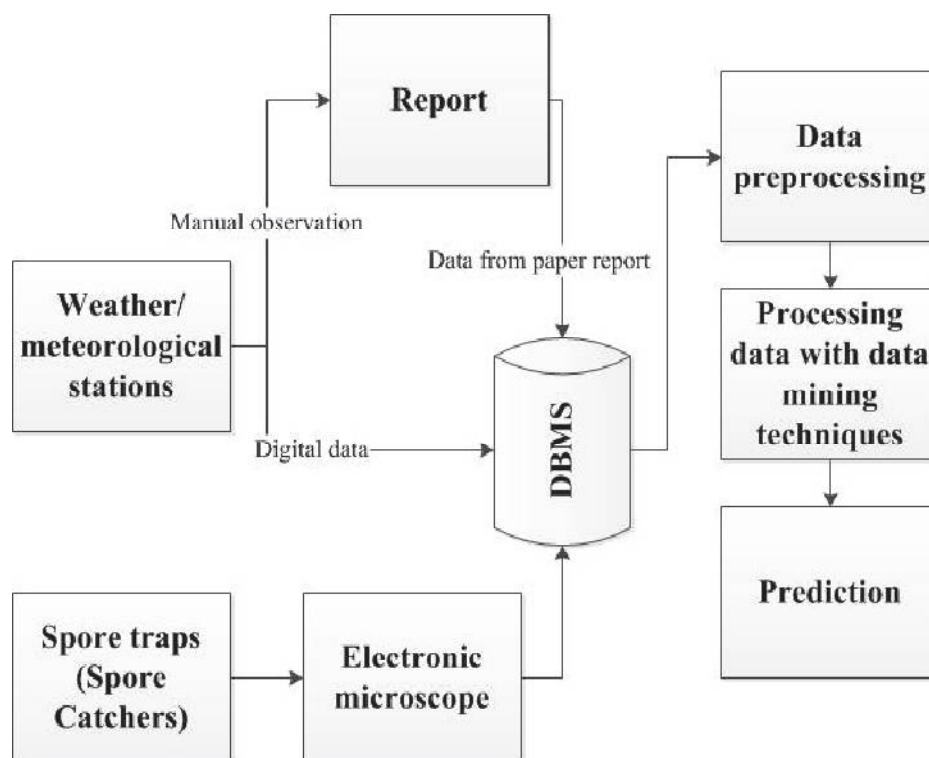


Fig.2 System Architecture

IV. CONCLUSION

In this work, fruit detection system is proposed. Image processing algorithm is used to determine the defect of fruit. We use clustering technique for image segmentation followed by image extraction. We save the country from economic losses during export and import fruit. So that our system is very effective and efficient for detecting disease of particular fruit.

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