NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY [IJIERT]
ISSN: 2394-3696
VOLUME 6, ISSUE 6, June-2019

A NOVAL APPROACH IN DETECTING THE TASTE OF AYURVEDIC LEAVES FOR MEDICINAL PURPOSE

[1]C.JEYALAKSHMI,
[1]Associate Professor, Department of ECE,[1]K. Ramakrishnan College of Engineering, Trichy,Tamilnadu,India

[2]G.ANUSANKITA,
[2]Assistant Professor,[2]Trichy Engineering college,Trichy, Tamilnadu, India

ABSTRACT
Ayurveda is an ancient method of curing diseases which is very powerful method even now.Allopathy medicines are a type of alternative medicine. The ayurvedic taste detector is an electronic device which is used to identify the taste of the herbal leaves. The leaves are first Image processed and verified whether it is affected by any pesticide, weeds, artificial fertilizer or manure and are displayed in the monitor whether it is healthy or not. After the detection of leaves they are sent for identifying the taste. The taste are detected by the range of pH values via pH Electrode. With those pH values the taste are finally displayed in the LCD. Finally, with the help of the taste the Ayurvedic doctors can cure many diseases.

INDEX TERMS – pH Electrode, Ayurvedic taste detector.

I. INTRODUCTION
In general, drugs are used by all of us instead of ayurvedic medicines, the reason is for any type of disease, we want immediate results. Since this ayurvedicmedicines takes longer time for curing, we don't have the patience to wait. But, the major drawback in allopathic medicine is their side effects, they can cure our ailment, but they will give us some other disease. Again we will go to the doctor for treatment and this is a continuous cycle.

Mostly, every people in India are affected by Hyperacidity, bone and joint pains and Highblood pressure.Regularly we are taking tablets for blood pressure and sugar. Due to the drugs common side effect involves the gastrointestinal system.Otherwise mostly stomach pain will occur, though it happen to a lesser amount of people. Similarly for other externally used drugs, skin irritation is a common cause.

In ancient days people use only ayurvedic medicines only, and they won't expect sudden cure also. They have taken healthy food and lived for a longer duration with courage. But due to the unusual timings and unhealthy foods and tension, every one of us having many problems. Now all of us thinking of natural cure and looking for that.Our prime minister also continuously insisting ayurveda and yoga to lead a healthy life. People are interested to study ayurveda nowadays. Our government is supporting for that.

The main thing for ayurveda is from the taste we have to find the kind of medicine for cure. But whenever we are finding taste of a medicinal leaves, sometimes it may cause danger for us due to wrong identification of leaves. To avoid that only, we are finding the taste in a unusual way. In this paper we have proposed a noval method of finding the taste of medicinal leaves using electronic device.For that initially using image processing techniques, we have to find the quality of the leaves such as good or bad, and then there taste is to be found.By using this device we can easily find the taste and corresponding medicine is developed using that which is prime motto of our prime minister.

In our tongue, we are having thousands of taste buds and in addition we have on the tops and bottoms and sides of our mouth. All over our taste buds,we have as many as 100 taste receptors on each taste bud. The basic tastes wildly have different paintings of flavour.

II. IMAGE PROCESSING FOR DETECTION OF WEEDS
The first step in finding that a medicinal leaf is good or bad by the image analysis techniques [1]The initial step is to extract features [2,3] from the given image of a leaf and then enhancing that using the suitable algorithm. For that after extracting the features, we have to create model[4] for each type of leaves which is

in good quality and disease affected.Then using these templates, whenever a new leafis given it is verified with this models and whether it is good or not is identified.

III. PH ELECTRODE

To find the taste of a leaf from its extraction is to find out its pH value. These electrodes are analytical sensors to find potential of hydrogen (pH). The pH value of any material is directly proportional to the ratio of the hydrogen ion [H+] and the hydroxyl ion [OH-] concentrations. Using this pH value only, most of the chemical properties of the substances are found.

pH electrodes are usually made of glass. The electrode is normally filled with buffered solution of chlorides at the same time it is immersed in silver chloride. pH of internal solution may vary from 1.0 (0.1M HCl) or 7. Practically the majority of pH electrodes are combination electrodes which has glass H^+ ion sensitive.Additional reference electrode may be placed in one housing. Sometimes we may make use of separate pH electrodes and reference electrodes.Here, the pH values are found and they are displayed as taste finally in the LCD Display.

IV. PROPOSED METHODOLOGY

Digital camera is used to get the realistic images of leafs of different varieties. They are used to find the disease affected area in leafs[5].Then using various processing of imaging techniques used toprocess those images, to get useful features necessaryfor future analysis [6].

The following steps will explain how to do the process for the proposed image recognition and segmentation:First using digital camera we have to capture the image. The preprocessing steps are used to improve the resolution[7]i.e the quality and to remove the undesired distortion from the image. Then the required portion of the image is selected and segmented using thresholding technique.i.e if the pixel value is less than the pre-computed threshold value, thenzero value is assigned otherwise some value will come.In the infected clusters, inside the boundaries, useful segments are found to classify the leaf diseases. Then Segmentation is done using genetic algorithm and features are extracted using color co-occurrence methodology[8].It is followed by checking the leaf healthier or not and its analysis is displayed finally in the LCD as healthier or not.

Fig 1.Implementation using Raspberry Pi kit

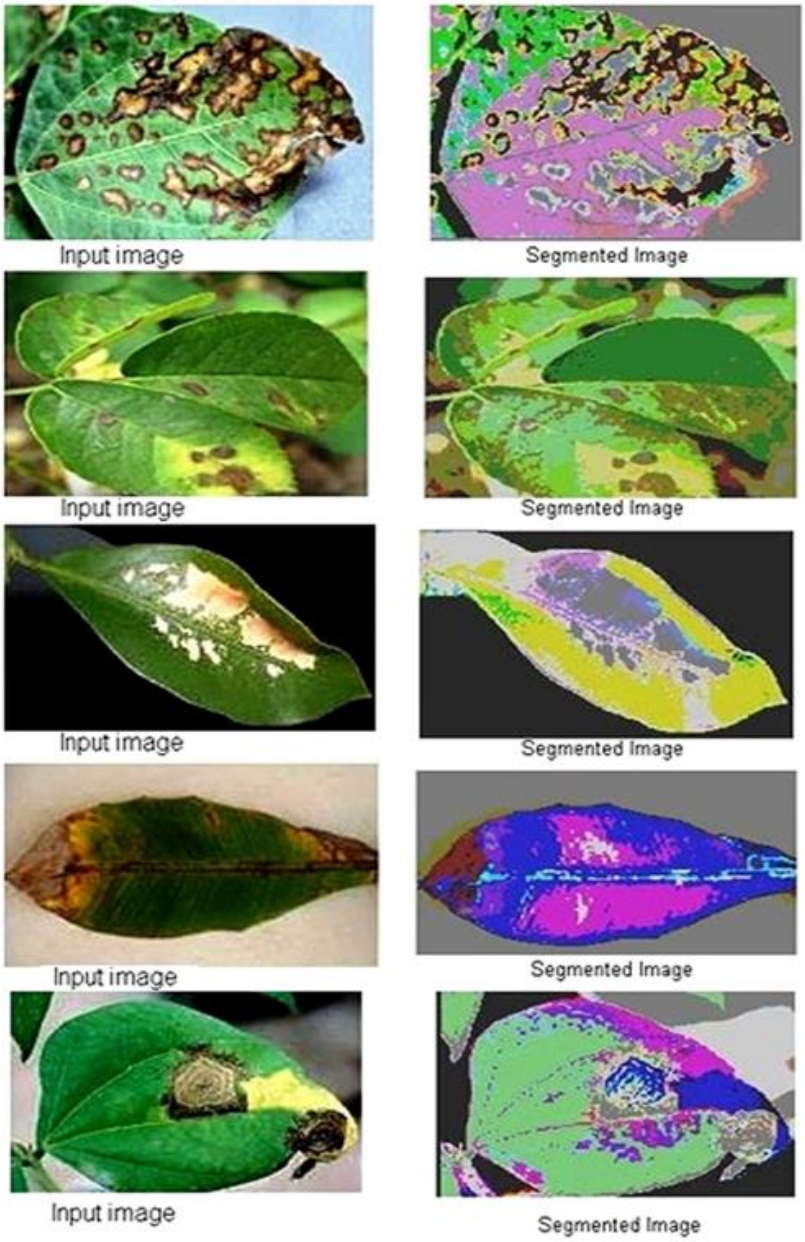

Fig. 2: Input images and Segmented images

The above figure 2 shows the segmented imagesand table 1 shows the pH value of different leaves.

Table-1: pH value for different leaves and effects

Carissa spinarum (chirukila)	5.90	fever
Urticadioica	7.50	Nasal inflammation, hay fever
Physalisperuviana (sakaraipazham)	5.67	Hypertension control
Bidenspilosa	5.99	Wounds and ulcers
Leonotisnepetifolia (jathithulasi)	5.94	Treatment of leprosy
Toddaliaasiatica (kaatumilagu)	5.64	Diabetes

Once the leaves are segmented and identified whether they are healthy or not, the particular leaf is ready to take the extract. The extract from the particular healthier leaf is taken and it is dropped inthe hole kept for taking the extraction to detect the taste. The pH values for the fivebasic taste isalready loaded in the Hardware[9,10]. The pH electrode gives us the exact pH value of the leaf. Once the pH value is found they are compared with the values which are loaded in the Hardware[11]. Finally, the taste is directly displayed in the LCD display.

V. CONCLUSION

Most Allopathic medicines are having most side effects in the today's world. So the world are ready to create a turning point and they are shifting towards Ayurveda. The Ayurvedic doctors are able to cure a particular disease by identifying its taste. For example, the Neem leaf has bitter taste and hence it is used as an anti-fever drug. So an electronic device called as Ayurvedic Taste Detector is found which will verify if the leaf is healthier or not and will detect the taste and finally displays the result in the LCD display.

REFERENCES

1) B.KiranBala, A Novel Approach to Identify the Micro calcification Images, Journal of Chemical and Pharmaceutical Sciences, issue 2, pp.190-192,2017.
2) Revathi, A Jeyalakshmi, C Muruganantham, T "Perceptual Features based Rapid and Robust Language Identification System for Various Indian Classical Languages", In: Hemanth D., Smys S. (eds) Computational Vision and Bio Inspired Computing. Springer Lecture Notes in Computational Vision and Biomechanics book series (LNCVB), vol. 28, pp.291-305, 2018.
3) Revathi, A Jeyalakshmi, C "Robust Speech Recognition in Noisy Environment using Perceptual Features and Adaptive Filters", Proceedings of 'International Conference on Communication and Electronics Systems (ICCES 2017), pp.692-696, 2018.
4) Revathi, A Jeyalakshmi, C 2017, 'A challenging task in recognizing the speech of the hearing impaired using normal hearing models in classical Tamil language', Journal of Engineering research, vol.5 no.2, pp.110-128, June2017.
5) R PreethiRajaiah, R John Britto, " Optic disc boundary detection and cup segmentation for prediction of glaucoma", International Journal of Science, Engineering and Technology Research (IJSETR), vol.3, issue 10, pp. 2665-2672, 2014
6) B.Kiranbala, S Audithan, Wavelet and curvelet analysis for the classification of microclacifiaction using mammogram images, Proceedings of Second International Conference on Current Trends in Engineering and Technology-ICCTET 2014, pp.517-521
7) B.KiranBala, A Novel Approach to Identify the Micro calcification Images, Journal of Chemical and Pharmaceutical Sciences, issue 2, pp.190-192,2017.
8) R.Balamurugan,N.R.Nagarajan "Smart Method OfVehicular Tactical Manoeuvre system"International Journal of Advanced Research in Electrical Electronicsand Instrumental Engineering volume 8issue 4, April 2019.
9)]R.Balamurugan,N.R.Nagarajan "smart shoppe trolley", International Journal of Advanced Research in computer and communication Engineering, vol 6 , may2019.
10) S Shabina, "Smart Helmet Using RF and WSN Technology for Underground Mines Safety", Proceedings of International Conference on Intelligent Computing Applications, pp.305-309,2014.
11) N.R.Nagarajan, R.Balamurugan, "A DFT Tactic Aimed at Testable Q-flop Rudiments", International Journal of Advanced Research in Electrical Electronics and Instrumental Engineering volume 8issue 4, April 2019.