Note to Coin Exchanger with Fake Note Detection

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ABSTRACT

Now days, we have to suffer a lot for the change in various public places in daily life. The need of change has been increased. Rather coins are used more instead of note in various places like bus station, railway station, malls, parks. For these many application places coins are used extremely, so there is need to develop an exchanger machine which will give us coins instead of notes.and also The use of counterfeit currency is one of the major issues faced throughout the world now a days .The counterfeiters are becoming harder to track down because of their use of highly advanced technology so it is also very necessary to identify the real note.

Keyword – *Fake currency, counterfeit detection, image processing, feature extraction*

Introduction

In our daily life people come across with the problem of not getting coins at various public places such as railway stations, malls, bus stations, etc. So we intend to provide a solution that will be convenient to obtain change in terms on coins or notes in exchange of note. Also the system will be able to identify whether the note is genuine or fake. If the note is fake then LCD display given message.

If a note is real, camera takes picture of note and with help of computer having MATLAB program checks which note it is. Once the note is recognized, coins will be dispensed by coin dispensing unit**.**

Literature survey

Sonali R. Darade, Prof.G.R.Gidveer, "Automatic Recognition of Fake Indian Currency Note'', ICEPES, Dec 14-16, 2016.

authors proposed the problem of Detecting fake Currency using MATLAB technique. In this technique, they used the RGB components of two images: one was the original currency note(r1,g1,b1) and other was the note to be tested(r2,g2,b2). Then a new image with components as r1, g2, b1 or r2, g1, b1 or b2, g1, b1 was constructed. But r1,g2,b1 combination was most preferred because human eye is sensitive to green component and most of our images contains maximum green component so that our output image will be much easier to identify the fake note more efficiently .

Vishnu. R. Bini Omman," Principal Features for Indian Currency Recognition", IEEE India Conference (INDICON), 2014.

the authors presented an extensive survey of research on various developments in recent years in identification of currency and it also focused primarily on currency detection system including various steps involved in it like 1)mage 1acquisition, 2)feature extraction and classification system using various algorithm. Various classification techniques had been mentioned in the paper, they were as follows: i) Artificial Neural Network. ii) Image histogram.

Pravin Bhongale,Ramchandra Padalkar, Rohit Bhongale, Prof. P.S.Togrikar, "Intelligent Note To Coin Exchanger With Fake Note Detection", IJMTER, Volume 3, Feb 2016
This paper related to coin exchanger machine will be having low cost. In this project they developed algorithm in MATLAB for image binarization to detect the value of note. And they also implemented a fake note detection unit using UV LED and photodiode.

Archana Bade, Deepali Aher, Prof Smita Kulkarni,"Note To Coin Exchanger Using Image Processing", International Journal on Recent and Innovation Trends in Computing and Communication, Volume: 1
Author gives various techniques to detect the Indian currency note, these are texture based, pattern based, checking by the watermarking, checking the micro lettering, color based recognition technique .The most preferable technique along all these is color based recognition . It is constructed by counting the number of pixels of each color

Kajal A. Gavali, Sonprabha D. Patil, Divyani D. Ingavle, Prof. S. S. Patil, "Note To Coin Exchanger With Fake Note Detection", IJIRSC, Volume 2, March 16.
This paper gives information related to the project which uses the frequency domain feature extraction method is discussed for the detection of currency. This method efficiently utilizes the local spatial features in a currency image to recognize it Komal Vora, Ami Shah, Jay Mehta, "Currency Recognition System", International Journal of Computer Applications, Volume 115, April 2015
In this paper The currency verified by using image processing techniques. The approach consists of a number of components including image processing, edge detection, image segmentation and characteristic extraction and comparing images. The desired results shall verify with MATLAB software.

Tushar Raisane, Kanishk Dhamdhere, Neeraj Jaswani, A. A. Yadav,"Intelligent Note to Coin Exchanger with Fake Note Detection", IJSETR, Volume 4, 2015.
This paper works in following area 1) fake currency detection using currency note localization 2)currency note recognization using image processing.

Prof. M.E.Ingale,Akash Deore,Rahul Sambre, Rakesh Karad,"Note to Coin Exchanger Using Image Processing", IJARECE, Volume 4, March 2015.
In this paper, recognition of fake Indian currency notes is done by using image processing technique. In this technique first the image acquisition is done and applies pre- processing to the image.and also it uses feature extraction of currency like 1) Water Marking 2) Optically Variable Ink 3))Fluorescence 4) Latent Image .etc

CONCLUSIONS

Developing an interactive system that generates currency recognition system using image processing the help of MATLAB. This system will accept note and give equal rupees in the form of coins. The system is useful in checking whether the note is fake or real. The proposed system will be useful in day to day life of every common man where people have to suffer for change at many public places like bus station, railway station where there is a requirement of coins. System can be implemented as a unit where purpose of self-ticketing and dealing with small return cash back in form of coins can be done.

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