CURRENCY DETECTOR APP FOR VISUALLY IMPAIRED

N.Rajesh
20P61A05E8
Rajeshnadiminti169@gmail.com

P.Vamshi krishna
20P61A05H1
Vamshikrishna1827@gmail.com

N.Ramshankar
20P61A05F0
ramshankarnramshankarn@gmail.com

OBJECTIVE

Visually Impaired are those people who have vision impairment or vision loss. Problems faced by visually impaired in performing daily activities are in great number. They also face a lot of difficulties in monetary transactions. They are unable to recognize the paper currencies due to similarity of paper texture and size between different categories. This money detector app helps visually impaired patients to recognize and detect money. Using this application blind people can speak and give command to open camera of a smartphone and camera will click picture of the note and tell the user by speech how much the money note is. This Android project uses speech to text conversion to convert the command given by the blind patient. Speech Recognition is a technology that allows users to provide spoken input into the systems. This android application uses text to speech concept to read the value of note to the user and then it converts the text value into speech. For currency detection, this application uses Azure custom vision API using Machine learning classification technique to detect currency based on images or paper using mobile camera.

ABSTRACT

The The main problem faced by people with visual disabilities is the inability to recognize paper currencies due to the similarity of paper texture and size between the different categories. These people face a lot of difficulty in their monetary transactions. This application can help the visually impaired recognize money.In this application, blind people can speak and give a command to open the camera and the camera will click the picture of the note and tell the user by speech medium how much rupee note it is.This system uses speech-to-text to convert command given by blind people, Speech recognition is the interdisciplinary subfield of computational linguistics that develops methodologies and technologiesthat enables the recognition and translation of spoken language into text.For the result purpose, this system has text to speech concept which helps to read the value of notes and then convertsthe text value into speech. Android allows converting your text into voice.Not only you can convert it but it also allows you to speak text in a variety of different languages.

INTRODUCTION

Research work in the domain of image processing is evolving rapidly specifically in the banking sector. Along with the evolving technologies and the growth of the banking sector, the requirement to precisely and efficiently detect currency and its denomination is also growing in parallel.So, the necessity of a robust and

efficient currency recognition system in applications like Cash machines (ATMs), different vending machines, beverage and food dispensers, and helping the blind or visually impaired (in order to correctly differentiate between different denominations).The World Health Organization (WHO) had a survey of around 285 million people. The statistics showed that among the population under consideration, while surveyed, 39 were visually Impaired (i.e. blind or people having low vision).So, a desperate need of designing a system that will help these people in recognizing the currency;That shows up. Therefore, in order to help the visually disabled.

HARDWARE & SOFTWARE REQUIREMENTS

RAM: 16GB
Hard Disk: 500GB
Operating System: Windows 7,8,10,11 or Mac Os

Coding Language: Java
IDE: Android Studio

Input Devices:Keyboard,Mouse.

EXISTING SYSTEM

In the existing system, an image processing-based currency recognition system uses four different algorithms (SIFT, FAST, ORB and SURF).These algorithms are used in feature extraction and matching, The project specifically focuses on Indian Currency notes. After studying algorithms, it is observed that each algorithm has its advantages and disadvantages. As the existing system is mathematically complicated and computationally heavy.

PROPOSED SYSTEM

Our android application uses Teachable machine online software which helps to train our dataset and use it with the TF-lite quantized, floating point module in the asset folder of the Application.Through this model 600 images are classified, and each image is checked according to its accuracy of matching with the denomination. In it, multiple classes are created with each currency value.By uploading the image size and setting an accurate epoch value.

CONCLUSION

The proposed system is designed for the detection and recognition of currencies thatRecognize an Indian banknote in order to help blind people in their daily life. The system is trained in a variety of images with different backgrounds and magnification techniques, resulting in a highly accurate system for recognizing banknotes. After installing and programming the model in small, commercially available digital signal Processing

REFERENCES

1. "Currency Detector: An Android Application Using Image Processing" by Anand Singh,Preeti Singh, and Rohit Singh. International Journal of Advanced research in Computer Science, Vol. 8, No. 5, May-June 2017.
2. "Currency Recognition Using Convolutional Neural Networks" by Qianqian Xu, Wenyao Xu, and Zhanpeng Jin. IEEE Transactions on

Mobile Computing, Vol. 17, No. 10,October 2018.

3. "An Android-Based Application for Currency Detection and Identification" by Hamza hasan, Mohammed Hasan, and Najlaa Alshammari. International Journal of Advanced Computer Science and Applications, Vol. 9, No. 6, 2018.

4. Gerrit J. J. Van den Burg, Christopher K. I. Williams – An Evaluation of Change Point detection Algorithms – May 2020

Guide Name: Mr.D.Srinivas Goud

Guide Designation: Assistant Professor, Dept. of CSE

Guide Signature:

Coordinator Signature: