

# AN EFFICIENT METHOD TO FIND IMAGES BY INTERACTIVE SEARCHING METHOD

T.Deepika, Mr.R.Gopalakrishnan, Ms.S.Vandhana.

**ABSTRACT-** Search engine is very helpful to provide information about things. But in the modern world, text based search consumed more time and produce small typing error due to carelessness. In this system provide high accuracy and fast with no typing necessary. Take input as snap a picture by using a camera and compares to its database and provide detail of image. This technology is entirely eradicated the problem of text based search and extracts the information regarding the image. To find the capture image from a complex background using feature extraction method. Raspberry pi is used for comparing the original image and capture images with LAN connection. The Raspberry Pi is a compact size and it has inbuilt all the component like as processor. It's only running on Linux operating system and eliminates on-board non-volatile memory because the entire databases are stored in SD card. The HDMI cable is connected to the monitor for display the detail of the capture image information.

**Index terms-** Raspberry pi, Camera, MATLAB, Linux.

## I.INTRODUCTION

Web search engine is the set of program that is used for providing information about typing text query detail. This project is used very effective search engine used to browse directly in web server instead of the web browser and the main component is raspberry pi. Raspberry Pi is the compact sized single board computer, system on chip. The camera is the best role in the paper because input as an image. The captured image is extracted from the complex background using feature extraction method. The typing detail is comparing the stored keyword in the web browser. If the typing text is incorrect, that is not matched to the original information.

The web engine is provided an index of the query image by comparing the stored keyword. The unrelated information is present in web pages while result set is more. This problem is reduced by using prototype based on re ranking image search. The highest rank image is called trainer data (noisy) and its improve by visual classifier[1]. Performance of search is improved by using, exploiting image contents in web search. The multimedia information contains large detail so searching process is inconvenient, this method has easily solved the problem. The query image

information is analyzed by using the density of the visual feature space[2]. Classifier is the important part of the web search engine. The efficient object category recognition method is providing efficient construction and suitable classifier with accuracy. In this system, it associate visual classes pertinent to the semantic meaning [3]. Suppose to finding detail about the physical object in the webpage, Picture based question answering method is used. It is used in online albums, text based QA and mobile application. In this method is depends on the template, information retrieval and human-computation[4]. Re ranking is the best method to reduce unrelated image while result set is more. Reranking is automatically generated for the given query image by using Harvesting image databases from the web. The main process removes unrelated data and re-rank is established. The top ranked image used as training data[5]. The current state of the art approach is unsuitable for real world web search engine because its need training models for each new query. This problem is reduced by the Generic classifier method. In this method depend on new queries without extra training and it improves query-relative feature over the raw search ranking[6]. For difficult analysis, search engine are one of the difficult tool. At the present time, we have more number of pioneering search engine designed for searching complicated detail and leading advantage is to reduce the searching time and also it provide related clear information. Same way indri system is shown how the query language is designed to support a model language technology[7]. The complex loss function is alters the enactment of search engine. It is overcome by using Regression convergence analysis of algorithms. It mainly used for reducing the quadratic upper boundary of the loss function[8].

## II.PROPOSED SYSTEM

The main aim of the project is providing information about unknown objects using image. It is faster and more accurate than text based search methods. In this method eliminate typing error and increase processing time. Raspberry pi processor as an implementing platform. Raspberry pi is the compact sized device or such. Such means System on Chip, it has all the required electronics components on system chip and cost reduction. The Camera is the important role of this project and it captures the query image. The camera take a snap of query image from real time like as video. The query image is colour image and it convert to a gray image because all the colour present in the same memory. The captured image is presented in the complex background and extract from the background using background subtraction.

*Manuscript received Nov, 2015.*

*Deepika, EEE, Anna university/ Kongunadu college of engineering and technology Namakkal, Tamilnadu,*

*Mr.R.Gopalakrishnan, EEE, Assistant professor Anna university/ Kongunadu college of Engineering and technology.*

*Ms.Vanthana, Assistant professor.EEE, AnnaUniversity/ Kongunadu college of engineering and technology.*

Gradient method is used for feature extraction of the query image. Mapping method is used for select the necessary region. The edge detection method is used for finding a query image. The camera is connected to the Raspberry pi kit and it compares to the query image with a database. All the database all stored in SD card. The query image information is matched to the database and display information on the monitor.

**III.HARDWARE DESCRIPTION**

Figure 1 shows how to hardware working in the proposed method as below:

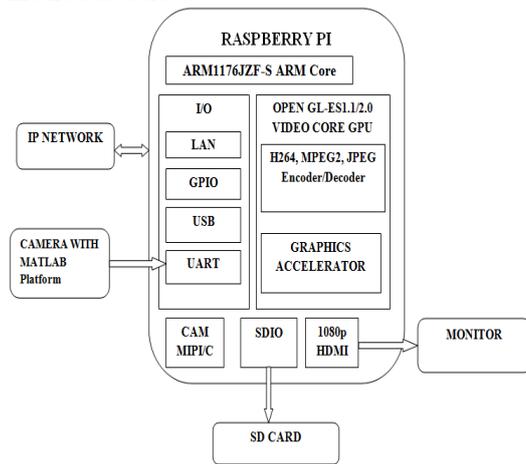


Figure1.Block diagram

**A. Camera**

The camera is the important role of this project because input as a snap of picture. The camera is connected to the Raspberry pi using UART. It's take a input from video using pause command. The image is arranged in the row and column vice and this project used [256,256] rows and columns. The camera capture is the image is colour image and converts a gray image because it stored the entire colour in small space. The converted gray image is applied to the LBP. LBP is an image operator that is used for find the edge of the image. The edge is defined out layer of an input image. The Histogram method is used for remove the noise present in the query images. This output is given to the Raspberry pi.

**B. Raspberry pi**

The Raspberry pi is small size device and it has inbuilt all the component like as ARM1176JZF-S. It is low cost and reduces system complexity. It is operate in Linux operating system. Raspberry pi is the programmed computer and stores data in SD card. The camera output is compared to the stored database with LAN connection. IP network is connected to the LAN for provide internet for this project. Reference sampled image is stored in the database. Feature extraction method is used to define feature of an input image. The input image is applied to the pre-processing method for identify process. Both pre-processing and feature extraction method compares and produces results.

**C. SD Card**

SD Card is used for storage purpose and reduces non-volatile memory in on-board. In this project is used

32GB memory card and store the all necessary database. An operating system is installing onto SD Card because Raspberry pi used this project.

**D. Monitor**

The HDMI cable are used connect the monitor to the Raspberry pi. The monitor is display the output of the query image. The query image detail is compared to the reference sampled image, if both details are same and display the query image using LAN connection.

**IV.RESULT**

MATLAB platform is used to simulate the input image and the result is compared with database image, if it matches, result will display and if it doesn't, there won't be any result.

**A. Image**

The reference sampled image is stored in database. The input as a snap of image and snap image is converting to a gray image. If the two images matches next process will obtained. Otherwise it results as incorrect image.

**B. LBP Code**

LBP method is an image operator that is used for arranged the image in row and column vice. In this method used to find the edge of the input image.

**C. Histogram**

Histogram is the graphical representation that is used to remove the noise from input image.

**V.EXPERIMENTAL RESULTS**

The figure 2 shows the screen shot of the colour query image. It is the input to the camera for processing.

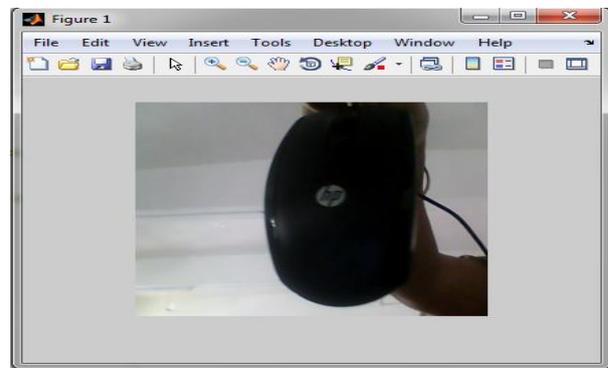


Figure 2. Colour query image

The figure 3 shows the screen shot of the gray query image. By using camera, converting input image as gray image.



Figure 3.Gray image

The figure 4 shows the screenshot of Local Binary Pattern (LBP) code .Edge detection is determined using LBP code

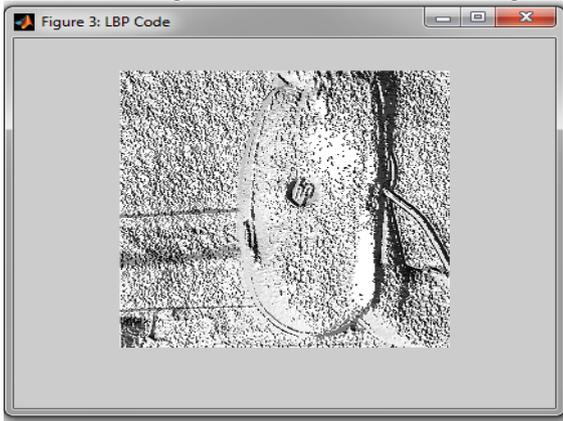


Figure4: LBP Code

The figure 5 shows the screen shot of the Histogram Graph. In that unwanted noise is removed from the image.

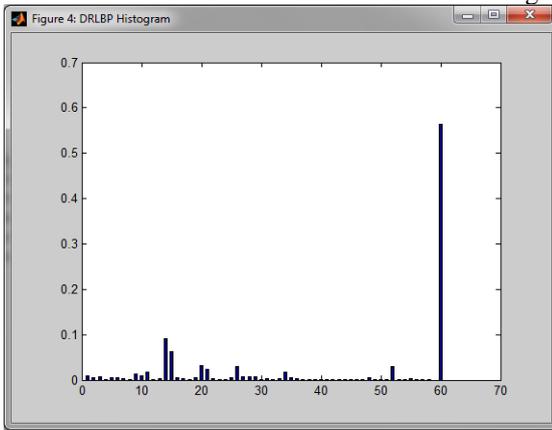


Figure5: DRLBP Histogram

The figure 6 shows the screen shot of the Dialog box. It displays the name of the query image.

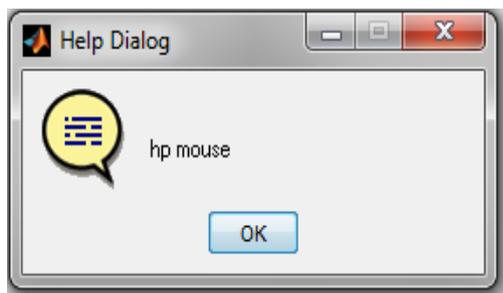


Figure 6: Dialog box

## VI.CONCLUSION AND FUTURE WORK

This system will take input as a snap of images from the camera. The input image is compared with the database image, if it matched, then display the information in the web browser by connecting the raspberry pi with LAN connection. It is an advanced search engine than now available search engines. It is also useful for real time applications such as hospital, industrial, military ,etc.. In future, it can be done in python language in open CV platform by giving input as the video also.

## ACKNOWLEDGMENT

This work was supported by our well-wisher. We would like to thank them for vital encouragement, support and lab facilities provided for our work. They kindly read our paper and offered invaluable detailed advices on grammar, organization, and the theme of the paper

## REFERENCES

- [1] Prof. C. M. Jadhav, Ms. Swati R. Murumkar” Improving Web Image Search using Reranking” Volume 4, Issue 11, November 2014.
- [2] Z.-H. Zhou and H.-B. Dai, “Exploiting image contents in web search.” in Proc. Int. J. Conf. Artif. Intell., 2007, pp. 2922–2927.
- [3] L. Torresani, M. Szummer, and A. W. Fitzgibbon, “Efficient object category recognition using classemes,” in Proc. Eur. Conf. Comput. Vis., 2010, pp. 776–789.
- [4] T. Yeh, J. J. Lee, and T. Darrell, “Photo-based question answering,” in Proc. 16th ACM Int. Conf. Multimedia, ser. MM ’08, New York, NY, USA: ACM, 2008, pp. 389–398.
- [5] F. Schroff, A. Criminisi, and A. Zisserman, “Harvesting image databases from the web,” IEEE Trans. Pattern Anal. Mach. Intell., vol. 33, no. 4, pp. 754–766, Apr. 2011.
- [6] J. Krapac, M. Allan, J. J. Verbeek, and F. Jurie, “Improving web image search results using query-relative classifiers,” in Proc. IEEE Conf. Comput. Vis. Pattern Recognit., 2010, pp. 1094–1101.
- [7] T. Strohmaier, D. Metzler, H. Turtle, and W. B. Croft, “Indri: A language-model based search engine for complex queries,” in Proc. Int. Conf. Intell. Anal., vol. 2, no. 6, 2005, pp. 2–7.
- [8] Z. Zheng, H. Zha, T. Zhang, O. Chapelle, K. Chen, and G. Sun, “A general boosting method and its application to learning ranking functions for web search,” in Proc. Neural Inf. Process. Syst., 2007, pp. 1697–1704.

## AUTHOR’S INFORMATION



**T.Deepika** was born in Namakkal, Tamilnadu, India on 10-03-1992. She received the bachelor degree in electronics and communication engineering from the Park College of Engineering and Technology, Coimbatore, Tamilnadu, India, in 2014.



**R.Gopalakrishnan** was born in Tamilnadu, India on 13-06-1984. He received his M.E., degree in power system engineering from Anna university of technology, Coimbatore, Tamilnadu, India, in 2011. He is now working as an Assistant Professor in the department of Electrical and Electronics Engineering at Kongunadu College of Engineering & Technology, Tiruchy, Tamil Nadu, India.



**S.Vandhana** was born in Tamilnadu, India on 16-06-1987. She received his M.E., degree in applied electronics from J.J.College of Engineering and Technology, Trichy, Tamilnadu, India. She is now working as an Assistant Professor in the department of Electrical and Electronics Engineering at Kongunadu College of Engineering & Technology, Tiruchy, Tamil Nadu, India.