A FAST IMAGE RETRIEVAL METHOD DESIGNED FOR NETWORK BIG DATA

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ABSTRACT:

In the field of big data application, image information is widely used. The esteem thickness of data usage in enormous information is low, and how to separate valuable data rapidly is vital. So client ought to change the unstructured picture information source into a shape that can be examined. In this model, proposed a quick picture recovery technique which intended for huge information. As a matter of first importance, the component extraction strategy is essential and the element vectors can be acquired for each picture. At that point, it is the most vital advance for us to encode the picture highlight vectors and make them into database, which can advance the element structure. At long last, the relating closeness coordinating is utilized to decide the recovery results. There are three principle commitments for picture recovery in this technique. New component extraction strategy, sensible components positioning and proper separation metric can enhance the calculation execution. Examinations demonstrate that our technique has an awesome change in the viable execution of highlight extraction and can likewise improve seek coordinating outcomes.

INTRODUCTION:

Image recognition has become a popular topic among the researchers because of its broad usage in many applications such as digital cameras, surveillance camera, image editing software, Facebook and many more. In Facebook, it implements facial recognition technology that allows all users to semi-automating the photo-tagging process. In this comparative **[1]** study, face recognition was chosen because it is the most significant human identifier. The face is the most visible part of human anatomy and serves as the first distinguishing factor of a human being. It helps a person to distinguish an individual from one to another. Every individual has his own uniqueness and this could be one

of the most transparent and unique feature of a human being.

In this modern era of automation many scientific advancements and inventions have taken place to save labor, increase the accuracy and to ameliorate our lives. Automated Attendance System is the advancement that has taken place in the field of automation replacing traditional attendance marking **[2]** activity. Automated Attendance Systems are generally bio-metric based, smart-card based and web based. These systems are widely used in different organizations. Traditional method of attendance marking is very time consuming and becomes complicated when the strength is more. Automation of **[2]** Attendance System has edge over traditional method as it saves time and also can be used for security purposes. This also helps to prevent fake attendance.

Iris is another bio-metric that can be used for Attendance Systems. In **[2] [3]** the authors have proposed Daugman's algorithm based Iris recognition system. This system uses iris recognition management system that does capturing the image of iris recognition, extraction, storing and matching. But the difficulty occurs to lay the transmission lines in the places where the topography is bad. In **[2][4]** authors have proposed a system based on real time face recognition which is reliable, secure and fast which needs improvement in different lighting conditions.

The data that is transmitted to the reader when the tag is interrogated by the reader. The most common tags today consist of an Integrated Circuit with memory, essentially a microprocessor chip. Other tags are chipless and have no onboard Integrated circuit. Chipless tags are more effective in applications where simpler range of functions is all that is required; although they can help achieve more accuracy and better detection range, at potentially lower cost than their Integrated Circuit-based counterparts **[5] [6].** From here on out, we will use the term tag to mean Integrated Circuit-based tag. We will refer to chipless tags explicitly, when needed. RFID tags come in two general varieties which are passive and active tag **[5] [7].** Passive tags require no internal power source, thus being pure passive devices (they are only active when a reader is nearby to power them), whereas active tags require a power source, usually a small battery. When an RFID tag passes through the field of the scanning antenna, it detects the activation signal from the antenna. That "wakes up" the RFID chip, and it transmits the information on its

microchip to be picked up by the scanning antenna.

Biometric-based technologies include identification based on physiological characteristics (such as face, fingerprints, finger geometry, hand geometry, hand veins, palm, iris, retina, ear and voice) and behavioral traits (such as gait, signature and keystroke dynamics)**[8] [9].** Almost all these technologies require some voluntary action by the user, i.e., the user needs to place his hand on a hand-rest for fingerprinting or hand geometry detection and has to stand in a fixed position in front of a camera for iris or retina identification.

LITERATURE SURVEY:

A facial recognition system is a computer application to automatically identifying a person from a digital image or a video frame. One way to achieve this is by comparing selected facial features from the image to a facial database. It is typically used in security systems and can be compared to other biometrics such as fingerprint or human iris **[1].** Currently, developers came up with the design that is capable of extracting and picking up faces from the crowd and have it compared to an image source - database. The software has the ability to know how the basic human face looks like in order for it to work accordingly. Thus, developers designed these programs (by storing commands) to pinpoint a face and measure its features.

In **[10] [2]** the authors have proposed a finger print based attendance system. A portable fingerprint device has been developed which can be passed among the students to place their finger on the sensor during the lecture time without the instructor's intervention. This system guarantees a fool-proof method for marking the attendance. The problem with this approach is that passing of the device during the lecture time may distract the attention of the students. A number of works related to Radio Frequency Identification (RFID) based Attendance Systems exist in the literature. In **[11]** the authors have proposed RFID based system in which students carry a RFID tag type ID card and they need to place that on the card reader to record their attendance..

In **[2] [3]** the authors have proposed Daugman's algorithm based Iris recognition system. This system uses iris recognition management system that does capturing the image of iris recognition, extraction, storing and matching. But the difficulty occurs to lay the transmission lines in the places where the topography is bad. In **[2] [4]** authors have proposed a system based on real time face recognition which is reliable, secure and fast which

needs improvement in different lighting conditions.

The GUI component of the system is purposely developed for friendly interaction with the users. Both types of users, namely the students and academic staffs are given **[5] [12]**. Unique access to their individual member area, where the students can access their personal information, while the academic staffs can monitor their students information. The developed GUI is in the form of dynamic web pages, which are database driven.

PROBLEM ANALYSIS:

In order mind the end goal to guarantee the proficiency of the current quantitative strategy and further enhance the precision of quantitative definition, more productive picture portrayal models should be advanced. A quick picture recovery technique intended for enormous information. Thinking about the nearby highlights and positioning the vectors, we can get a more precise recovery results.

PROPOSED WORK:

The proposed system is an image retrieval method. This method is divided into three steps, first step is extracting specific image features. The retrieval time was increased due to the large number of extracted features, and it was necessary to make feature dimension reduction as the second step. At last, new distance theory was put forward for image analysis and ultimately we got the corresponding retrieval images. In addition, gray co-occurrence matrix considers the image variation information on direction, spacing and amplitude, but it does not directly provide different texture feature value.

A quantitative description on smooth texture, roughness, contrast and similar information. In this paper, four other statistical characteristic are used to solve this problem. We mainly use the angular second moment, contrast, correlation and inverse difference, which give a more accurate feature extraction on images. The proposed features based on co-occurrence information quantitative characteristic acceleration can get the best retrieval performance results, which proves the co-occurrence information between visual features not only to guarantee the effective matching of similarity between images, have also contributed to improve the efficiency of quantitative character, especially when asked to quantify the time overhead is smaller. The acceleration and optimization effect is more obvious.

METHODOLOGY:

LOAD IMAGE

Load Image is a module that is considered with adding image along with the complete details of the person of whom we are taking image.

FACE IMAGE SEGMENTATION

The result of image segmentation is a set of segments that collectively cover the entire image, or a set of contours extracted from the image. Each of the pixels in a region are similar with respect to some characteristic or computed property, such as color, intensity, or texture.

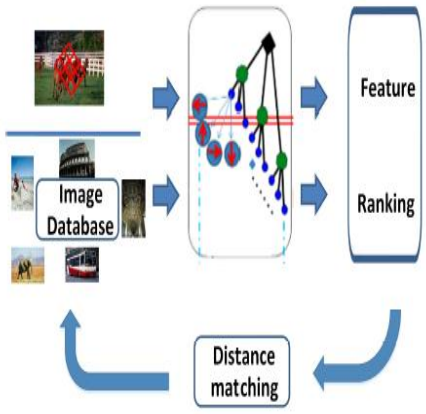


Fig .1. Over view of image retrieval system

IMAGE REGION CLASSIFIER

IMAGE CLASSIFICATION system, it is divided into two parts: learning and querying. The learning step tells about the training process which a huge mount sample images are input in the first step, then the images' features are extracted for the clustering. Finally the training output the clustering result as a learning code book. The query part describes the images searching process. Inputting the query images and matches to the training result. The output shows the most similar images for user's query

MEAN SHIFT MATCHING PROCESS

The data images input into the system will be first processed in this module. In the images retrieval, larger images usually decrease the retrieval accuracy. Small images grids help in feature extraction and images processing. Therefore, this module first divides the images into F*F grid and every grid will divided again into S*S sub-grids while during the feature extraction module

REPORTS

Based on the method provided in this paper, the experiments are designed to verify the architecture of the IMAGE CLASSIFICATION system. Also the experiments shows the modules proposed in this article perform good and well organized with the IMAGE CLASSIFICATION system architecture. First the IMAGE CLASSIFICATION system splits and calculates the average RGB, we have implemented and figure 6 shows samples of the color feature and split result.

ALGORITHM:

K means algorithm

Step 1: randomly chose k examples as initial centroids

Step 2: while true:

Step 3: create k cluster by assigning each

Step 4: example to closest centroid

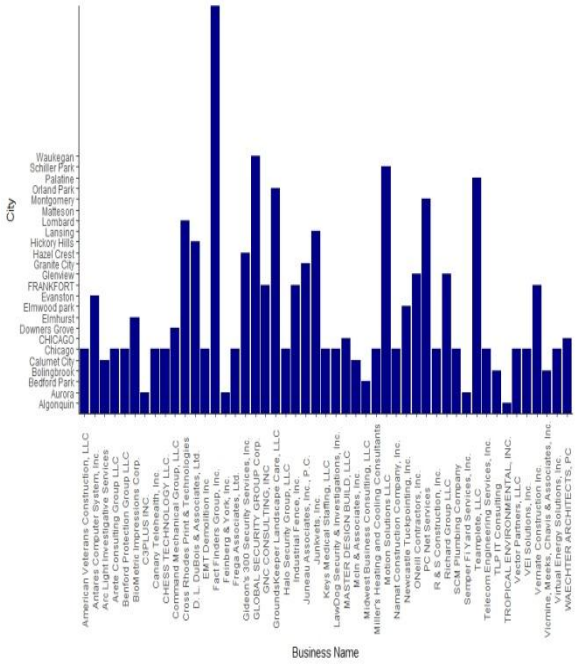
Step 5: compute k new centroids by averaging

Step 6: examples in each cluster

Step 7: if centroids don't change:

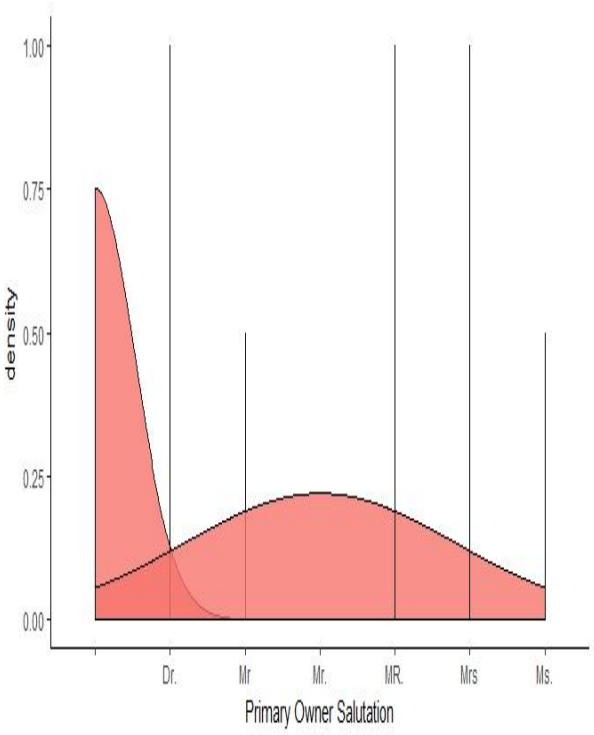
RESULT AND DISCUSSION

Experiments demonstrate that our strategy has an extraordinary change in the powerful execution of highlight extraction and can likewise show signs of improvement look coordinating outcomes.



Graph.1. Efficiency Throughput

As a kind of concise and natural visual appearance method, combination of features proposed has the following three advantages: it can be through the location information of local features and the connection between each other including detection and extraction, which does not require supervised training alone and classification learning, and can effectively avoid the combinatorial explosion caused by random combination of features for it.



Graph.2. Efficiency Throughput for image

Content based picture recovery can separate the significant visual factual qualities, for example, hues and surfaces. As indicated by the separation estimation between the element vectors, pictures can be coordinated with each other.

CONCLUSION:

On the basis of the existing methods for image retrieval, this paper focuses on the extraction of new features, which makes it more closely related to the image characters. First, we extract specific image features.

Then the retrieval time will be increased due to the large number of features extracted, it is necessary to make feature dimension reduction. At last, new distance theory is put forward for image analysis, and ultimately get the best image related to retrieval samples. Features such as GCM and DBPSP are used. In addition, LBP, HoG and other features which have been successfully used in other fields are combined in this paper.

Most importantly, a feature selection and ranking method plays an important role in this algorithm. At the same time, experiments show that our method has a great advantage in the retrieval time, which can meet the needs of real-time retrieval. As a kind of concise and natural visual expression method, combination of features proposed has the following three advantages: it can be through the location and the relationship between each other including detection and extraction, which does not require supervised training alone and classification learning, and can effectively avoid the combinatorial explosion caused by random combination of features for it.

Local area image provides a multi-scale visual expression, both contour description and preliminary clear details, compared to the single visual words, it has stronger visual expression and the ability to distinguish between local features. The relative position information implied in the combination of features can be naturally integrated into the large-scale image of the

inverted index structure, geometric consistency check corresponding both to ensure the efficiency and ensure the accuracy of the matching. Of course, more features can still be extracted, in the future work, this part of the content remains to be studied.

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