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The System to Retain Procurement of Video Data and Eradicate UN trusted User's

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Abstract: In this paper a secure mechanism to protect the intellectual property of the content creator of the websites like Google video, you tube, yahoo. Here the server will identify the unauthorized user and block that user from the network. By using the video copy detection methods compare the user video and admin videos to detect whether the trained video and queried videos may copies are not. Initially water marking techniques are used to protect the intellectuality of admin, but water marking itself is fragile for compression. Then content based copy detection (CBCD) proposed, it has a signature limitation problem. So the local descriptor Scale Invariant Feature Transform (SIFT) introduce to extort the features from the key frames. It encounters a computational cost. Then Singular Value Decomposition (SVD) is proposed for match two frames of video by using SIFT descriptor. Auto dual brink process is used to eradicate the superfluous video frames. And the graph based process is used to obtain video sequence and identify the longest path of matching result along with timing constraint. Then the queried video is the copy then that particular user blocked based on time stamp

Keywords: Blocking, Intellectual property, video copy, Superfluous frames, Time Stamp.

I. INTRODUCTION

Definition of copy video: If a video V1, may undergo various transformations such as addition, deletion, modification (of aspect, colour, contrast, encoding, and so on), cam cording, and then generate a video V2. Now video V2 is called a copy of video V1.

Video copy detection is the progression of detecting unlawfully copied videos by analyzing them and comparing them to original content [1]. The objective of this process is to protect a video creator's logical property. In this proposed work to protect the copyrighted materials from the unauthorized users to use video copy detection techniques like SIFT, SVD-SIFT, Auto Dual Brink process and Graph Based method. If the video is copy then that unauthorized user will be blocked based on the time stamp. Due to the fast growth of multimedia technologies the copyrighted materials become effortlessly imitative, stored, and spread in excess of the Internet. This state, aside from enable users to right to use information easily, causes enormous piracy issues. The first solution to identify copyrighted media is watermarking. Watermarking is used to introduce an invisible signal into a video to ease the detection of unlawful copies. This technique is widely used by photographers. Inserting a watermark on a video such that it is easily seen by an audience allows the content creator to detect easily whether the image has been copied. Some watermarks are visible (e.g., text or logo of the producer or broadcaster), even as others are unseen in the signal, which cannot be apparent by human eye. Now all DVD movies, video games, audio CDs, etc. have fingerprints that show the possession of the material. So the disadvantage of watermarks is generally brittle to visual transformations (e.g., re- encoding, change of the resolution/bit rate). For example, concealed data embedded on a movie will probably be lost when the clip is compressed and uploaded to a video contribution web site. In addition, temporal information of the video fragments (e.g., frame number, time-code) is also important in some applications. Watermarking technique is not intended to be used for video retrieval by querying with a sample video clip. Content Based Copy Detection (CBCD) is introducing to overcome the problem of watermarking. . The main idea of CBCD is that the media visually contains enough information for detecting copies. For that reason the difficulty of content-based copy detection is considered as video similarity detection by using the visual similarities of video clips. The frame work was proposed to notice the content based copy detection: In this framework initially fragmenting the queried and target videos with the content of homogeneous and then the key frame is extort from every fragment. Then features are extorted from those fragments of key frames. Now compare the features of both frames and analyses the results with time constraints.

II. LITERATURE SURVEY

H. Liu (2010) observed that the Stable and high distinctive image features are basis for web near-duplicate image detection. SIFT (scale invariant feature transform) has good scale and brightness invariance, and has a certain robustness to affine distortion, proportion change, and preservative noise. Thus, the corresponding cost of detection process based on SIFT features is high. So, proposed to apply the singular value decomposition (SVD) process for feature matching and extort the new features from the set of SIFT feature points. The extorted feature is named as SVD-SIFT. The tentative results demonstrate that the process can attain a better trade-off between effectiveness and efficiency for detection [2].

B. Cui proposed an accurate and practical system for online near-duplicate subsequence detection over continuous video streams, planned to transform a video stream into a one-dimensional video distance trajectory (VDT) for monitoring the continuous changes of consecutive frames with respect to a orientation point, which is further fragmented and characterize by a sequence of compact signatures called linear smoothing functions (LSFs). LSFs of each subsequence of the incoming video stream are continuously generated and temporally stored in a buffer for comparison with query LSFs. LSF espoused compound probability to combine three independent video factors for effective fragment correspondence measure, which is then consume to figure sequence similarity for near-

duplicate detection. The avoidable sequence similarity calculates an efficient sequence skipping strategy is also implanted [3].

X. Zhou (2010) proposed a subspace symbolization approach, namely SUDS, for content-based retrieval on extremely big video databases. The uniqueness of SUDS is that it explores the data distribution in subspaces to construct a visual dictionary, which the videos are processed by derive the string matching techniques with two-step data simplification. Particularly first proposed an adaptive approach, called VLP, to extort a series of principal subspaces of variable lengths from the whole visual feature space without the constraint of dimension consecutiveness. A stable visual dictionary is constructing by clustering the video key frames over each principal subspace. A compact video representation model is developed by transforming each key frame into a word that is a series of symbols in the principal subspaces, and further each video into a series of words. Then, there a novel resemblance measure called CVE, which approves a complementary information compensation scheme based on the visual features and sequence context of videos. At last an efficient two-layered index strategy with a number of query optimizations is proposed to facilitate video retrieval [4].

X. Zhou (2009) proposed a shot-based interest point selection approach for effective and efficient near-duplicate search over a large collection of video shots. The fundamental idea is to remove the local descriptors with lower frequencies among the selected video frames from a shot to make sure that the shot representation is compact and discriminative. Particularly proposed an adaptive frame selection strategy called furthest point voronoi (FPV) to construct the shot frame set according to the shot content and frame distribution, described a novel strategy named reference extortion (RE) to extort the shot interest descriptors from a key frame with the support of the selected frame set [5].

x. wu (2009) proposed an approach to integrating content and context can reach real-time novelty re-ranking of web videos with extremely high efficiency, where the widely held of duplicates can be rapidly detected and removed from the pinnacle rankings. The expedite of the proposed approach can reach 164 times faster than the effective hierarchical process proposed with just a slight loss of performance [6]**.**

G.Willems (2008) presented a new process for robust content based video copy detection based on local spatio-temporal features. As shown by trial validation, the use of limited spatio-temporal features instead of purely spatial ones brings additional robustness and discriminatively. Efficient operation is ensured by using the new spatio-temporal features. To cope with the high-dimensionality of the resultant descriptors, these features are included in a disk-based index and query system based on p-stable locality sensitive hashing. The system is applied to the charge of video footage reuse detection in news broad casts [7].

J. Law-To (2006) proposed an efficient approach for copies detection in a large videos archive consisting of several hundred of hs. . The process proposed is a dedicated on-line retrieval process based on a combination of the different dynamic contexts computed during the off-line indexing. A spatio-temporal listing based on the related combination of detected labels is then applied. This approach is appraised using a massive video database of 300 hs with diverse video tests. The process is evaluate to a state-of-the art technique in the same conditions and illustrate that taking labels into account in the specific voting process reduces false alarms significantly and drastically improves the precision.

Initially watermarks are used to introduce an invisible signal into a video to ease the detection of illegal copies. This method is usually used by lens men. Accrediting a watermark on a video such that it is easily seen by an audience allows the content designer to detect easily whether the image has been copied. The limitation of watermarks is that if the original image is not watermarked, then it is not possible to know whether other images are copies [8].

III.PREVIOUS PROCESS

In the previous process SIFT descriptor is used for video content description. Mainly SIFT (Scale Invariant Feature Transform) descriptor for video content description is employed to the reason of the Discriminative ability and good stability of local features. SIFT consists of four major stages: scale-space extrema recognition crux localization, orientation assignment and crux descriptor. The initial stage employed difference-of-Gaussian function to identify potential interest points, which were invariant to scale and orientation. Difference of Gaussian was used instead of Gaussian to get better the working speed.

$$D(x, y, \sigma) = (G(x, y, k\,\sigma) - G(x, y, \sigma)) * I(x, y) \quad (1)$$
$$= L(x, y, k\,\sigma) - L(x, y, \sigma)$$

In the crux localization step, they discarded the small contrast points and eradicate the edge response. Hessian matrix was used to figure the most important curvatures and eradicate the crux's that have a ratio between the most important curvatures greater than the ratio. An orientation histogram was produced from the gradient orientations of sample points within a section in the region of the crux in order to get an orientation assignment. According to the paper's experiments, the finest results were attained with a 4 x 4 array of histograms with 8 orientation bins in every one. So the descriptor of SIFT that was used is 4 x 4 x 8 = 128 dimensions.[9] However, matching based on SIFT descriptor is computationally dear for large number of points and the high dimension. SIFT is sluggish and not good at illumination changes, while it is flush to rotation, scale contrasts and affine transformations and the negative aspects in the existing system are server will not identify the misbehaving user and also user tries to login and same query is being obtainable several times. Server examines each and every users query videos. It will incessantly examine the query videos of each and every user's communiqué When examine the server will identify the imitation frames from the input queries i.e. the matching frame result is been confirmed from the database which is already been qualified It recognizes the unauthorized user and block that recognized user at particular time Here supplementary opening is make available to all users' i.e. (user's login limitation). Suppose if attempt of user is crossed the edge then that particular user will abandon from the network.

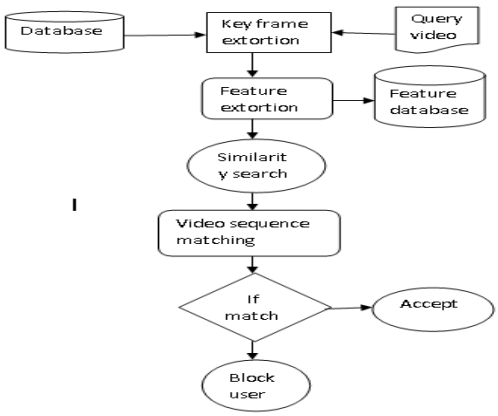

Figure 1. System architecture

IV. IMPLEMENTATION

Initially the dual-brink process is employed and it is fragmenting the videos into fragments with at ease of consistent and then the key frame is extorting from each fragment. The SIFT features are extorted from that fragments of key frames. Following that, employ an SVD-based technique to match two video frames with the SIFT point set descriptors. At last to obtain the video sequence matching result following that recommend a graph- based method. It can propose the video sequence matching into spotting the longest path in the frame matching-result with time constraint. The proposed work demonstrates that the fragmentation and graph-based video sequence matching methods can sense video copies capably As well as the server will classify misbehaving user in the proposed system and chunk the UN trusted user. In proposed work, mainly three ways are used for identifying and eradicating superfluous video data [10].

A. Auto Dual-Brink process to eradicate superfluous Video Frames

Generally, visual information of video frames is temporally superfluous. So, video sequence corresponding is not necessarily to be carried out using for every of the video frames. In framework, an auto dual-brink process is applied to eradicate superfluous video frames. This process cuts continuous video frames into video fragments by eradicating temporal redundancy of the visual information of continuous video frames. This process has the following two features.

- First, two brinks are used. Specifically, one brink is used for detecting abrupt changes of visual information of frames and another for gradual changes.
- Second, the values of two brinks are determined adaptively according to video content.

This process aims to eradicate the near-duplicate frames along the video time direction; by using the auto dual-brink fragmenting method, continuous video frames can be fragmented into temporally continuous and visually similar video fragments. Three frames are extorted from each video fragment, which are the first frame, the key frame and the last frame of this fragment. The key frame is determined by the frame that is the most similar to the average frame (i.e., the average feature value of all the frames within the fragment). The key frame is used for video sequence matching, while the foremost and the rare most frames for perfectly determining the fragment location for copy detection and assisting matching. Each fragment is assigned a continuous ID number along the time direction.

B. SIFT-SVD

To enhanced representation of the local content of video frames, choose SIFT descriptors to present the video sequences. On the contrary, since the number of SIFT feature points in video sequences is large, there be high computational cost for video copy detection. Thus, motivation is to match the two SIFT feature sets in two video frames and make use of the temporal information of video frames. For this process SVD (Singular Value Decomposition) is being used. Specifically, the goal is to use the SVD process is to reduce and correct the wrong match between the two points in two SIFT feature sets. The process focused on the "one point-to-one point" correspondence. However, use the SVD process to measure the similarity between two SIFT feature point sets, [10] and emphasize the similarity of "frame-to-frame."

The matrix singular value has the following features:

- Feature 1: transposition and replacement invariance. That is to say, after switching or row-column substitution operation of the matrix, its unique value remains unchanged. This feature can be directly proved according to the definition of singular value. It is used to match SIFT feature point sets of images.
- Feature 2: energy concentricity. The matrix A can be approximately restructured by the first k largest singular values of A. It can be proved that the matrix corresponding to the first k largest singular values of A is the closest to matrix A under the Frobenius norm. The energy concentricity of the first k largest singular values of the image SIFT feature matrix is used to greatly reduce the matching cost.

C. Graph Based Sequence Matching For Video Copy Detection

A graph-based sequence matching process is being used to identify the superfluous video data. The process is presented as follows:

1: Fragment the video frames and extort features of the Key frames.

2: go with the query video and target video.

3: Generate the result graph according to the results of two videos.

The graph must satisfy the following two conditions: Condition 1 indicates that if the query video is a copy deriving from the target video, then the video subsequence temporal order between query video and target video must be consistent, .If Condition 1 is satisfied, Condition 2 is used to constrain the time span of two matching results between the query video and the target video.[10] If the time span exceeds a certain brink, it is considered that there does not exist certain correlation between the two matching results.

V. RESULTS

Admin uploading original videos initially and the user login and upload the modified videos sometimes. But in every time admin test out users videos with already existing videos. In the admin test out process check the both video files frame by frame as shown in the figure 2. After Extorting of pixels matching pixels are stored in the database, whether there exist same videos it gives the results number of matched pixels and

number of matched fragments, and generates a graph Based sequence matching. It gives the message as the video which was played at first is original video, and then particular user is deactivated for some time as shown in the figure 3.

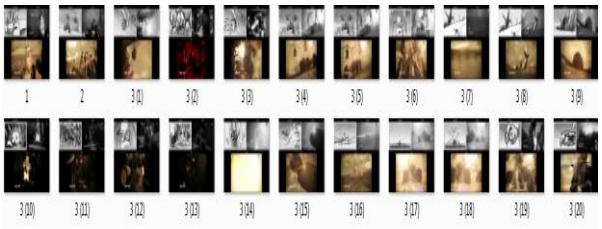

Figure. 2 Extortion of Frames

Then it gives message as the video which was played at first is original video

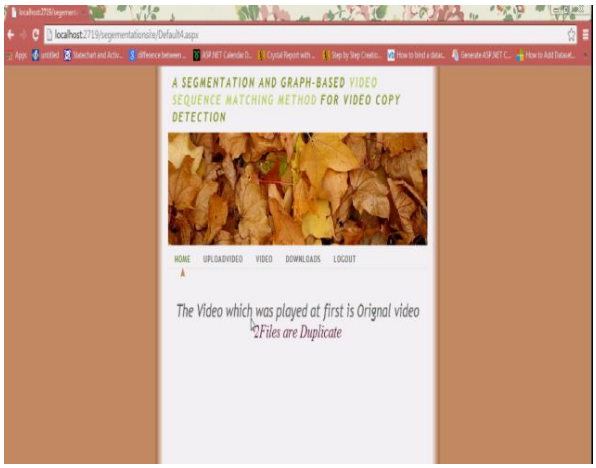

Figure. 3 Result

VI. CONCLUSION

This paper shows that three processes are proposed viz. Auto Dual threshold process; SIFT Singular Value Decomposition (SVD) and Graph based process. By applying these processes superfluous frames can be eradicated feature extortion made easy with SVD and matching the original data with copied data and SIFT-SVD can obtain a better trade-off between the effectiveness and the efficiency. Additionally, the server will classify misbehaving user in the proposed system and block the UN trusted .user from the network.

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