

## Video Data Extraction Using Image Characteristic Method

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### ABSTRACT

Knowledge retrieval from the huge data set is most thrusted area for today because of the vast nature of the data's. This data sets are too tough for image data set. Image is the combination of pixel, text, motion, frame values, time and more. This image attributes are used to extract the needed information from the image data base. Any video extraction is done through image frame or image event. Any video frame is the grouping of Position, interval, motion, and image capturing method. Extracting the similar contentment from the stored data set is called interpretation template. In our proposed work using image attributes are used to extract the similar video frame or event using image attribute value technique. Proposed technique works well in all type of video files and the output verified this.

**Keywords:** Knowledge extraction, Frame comparison, Image clustering, Image Threshold value, pixel calculation, Duplicate elimination, Information Extraction.

### Introduction

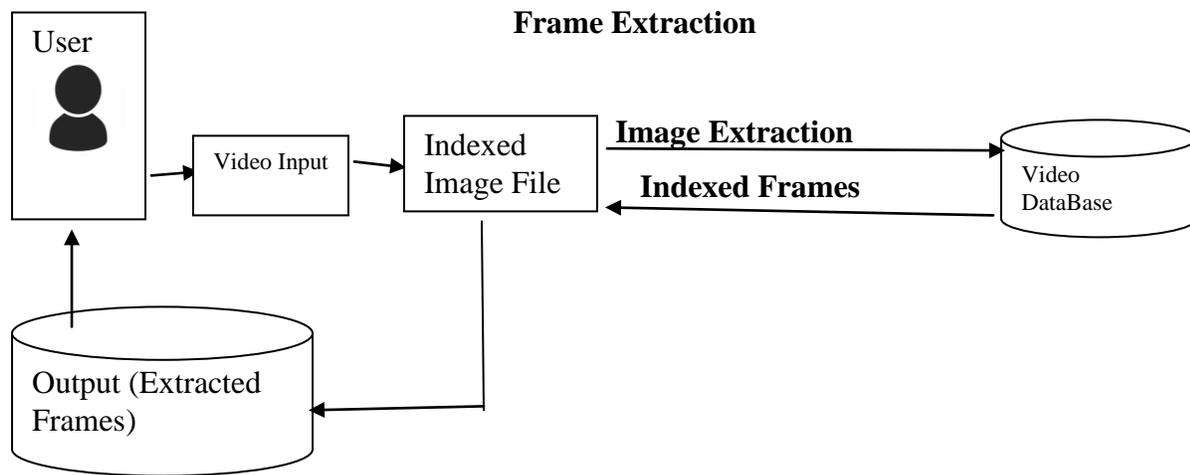
In image processing or image analyze the given dynamic videos are first converted into static frame or picture. Any frame or event defined as particular shot captured by the camera on the particular moment. Based on the user's requirement this individual pictures are joined together to create a complete dynamic video. Extraction of this video frames or video shots is depending on the quality of the image captured by the camera; it is very to person to person. Selecting the needed information from this collection of picture is called picture mining or picture extraction. Because of increasing the demand of this image files today large amount of video files are created and stored for various applications. To retrieve the needed information form this huge data set user need to train the input data set. It will bring the more relevant information also it will reduce the searching of the needed content. Any video model or image model is the combination of all image attributes such as Hue, motion, intervals between the picture, audio and specific situation of specific backgrounds. We construct a "video ontology" which is formal and explicit specification of events. The events are modeled to have semantic contents such as location, time, moving (motion) and shooting technique.

### Related Work

#### Frame Extraction:

Extracting the relevant content from the stored image data set done based on the image attribute values. Image are made of different properties such as image pixel values, image frame values, image frame interval, frame text and more. Based on this attributes user can train the input data set. This trained data sets helps the user to extract the needed content based on the input query or any input method. This training process actually time consuming one, but it will have improved

the users output efficiency and also it will bring the effective output. For train the input images various image mining algorithms are existing. This image process helps the various image analysis operations and also image extraction. Finding the relevant picture based on the users input is one of the most importing function in image processing. This task carries multiple steps, because the quality and nature of the image data sets to attain the aforementioned objectives, the following process has been done in the information that is saved in the Database.



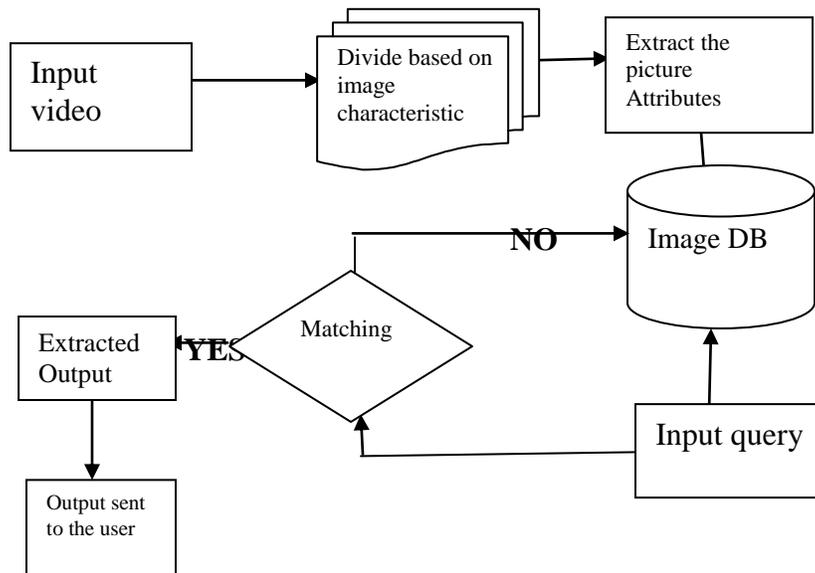
**Figure 1.** Frame extraction

### **Image Frame Mining Algorithm Steps**

The most important image frame mining procedure as:

1. Extract Picture Attributes: Images are made of image characteristics such as motion, time, interval, pixel closeness, different between one picture to other and more. Based on this characteristic the image is divided into frames or shot. Here one shot represents on object
2. Assign identifier to every frames: Every pictures are separated by shot or object. After each object are assigned by object reference. This reference helps the users to extract he particular object or classify the object easily.
3. Remove unwanted or error objects from the list: After assigned the label based on the image characteristics group the objects. It helps to extract the relevant image sets more quickly.
4. Use image extraction procedure: Based on the users need apply the extraction method to extract the needed data objects.

### Experimental setup



**Figure 2** proposed Architecture

### Input selection

Technology allows today to sent the input in terms of image. Traditional text input is complicated and user won't get the proper output. Image input are extracting most relevant information it improves the user's efficiency. During the image input user may get the more accurate output and most relevant information's. During the text query user need to perform one or more iteration to obtained the needed information. This burden is avoided in image input query

### Create a static image Data set

Given video file is first splitted into frames based on the user's requirement. Frame splitting done base on the time interval between one video frame to another video frames. After successful converting of video frames user need to extract the attributes of each frames. This process is done both user side and server side. Use this frame value user can bring the similar video files based on the users input query. Many techniques are used to extract the values from the frames, here image threshold or image total pixel value are used for this purpose. Based on the frame comparison duplicate object or picture are identified and remove. After removed the duplication information are grouped used for the other processing.

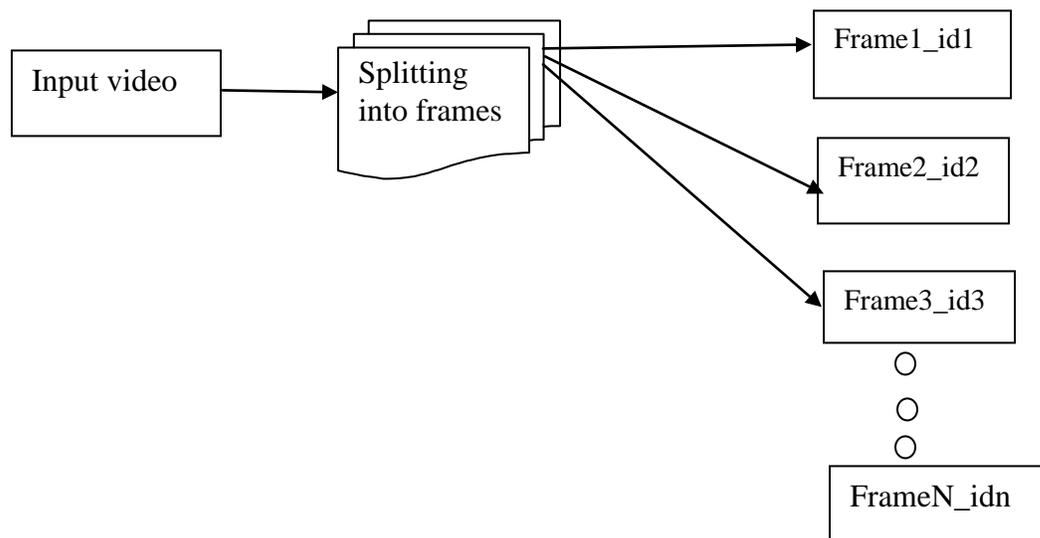
The processing of image based on the users input described below.

Extracting the image from the image data set is done in tow step process.

1. Each image frame first extracting the image features and stored separately for the later process.

2. After extracting the image feature the next step construct the image descriptors of each image frame.

This process is done both user input side and image data base side. Each training phase one image selected as reference image frame, it helps to construct the image indexing based on the input process. This process is repeated for all image frames and the values are stored separately for the feature operations.



**Figure 3.** Structure of the Behavior/Events

Step1: Select the input video file.

Step2: Convert the dynamic video file into static frames.

Step3: Unwanted frames are removed based on frame comparison.

Step4: Extract the frame values stored for later operation.

Step5. This process repeated for client and server.

Step6. Both client and server values are stored for further operations.

Step7. Give the user input frame

Step8. Using frame matching technique identical frames are extracted and send back to the user.

Step9. Stop

**Figure 4** Pre-processing Algorithm

### Pixel Value extraction

Every frames are made by the combination of R, G, B values. Each and every values are calculated separately; this values are stored separately for further operations. This values used for image extraction as well as used for extracting the duplicate frames. Using frame comparison technique value of one frame is compared with other frame if the difference is small then the particular frame treated as repeated frame and it is removed from the list. After

successfully stored list user can have extracted the relevant image. It is done through the following simple calculation.

Mean value of Red Pixel = Red / Total pixel

Mean value of Blue Pixel = Blue / Total Pixel

Mean value of Green pixel = Green/ Total Pixel

### Experimental outcomes

Frames

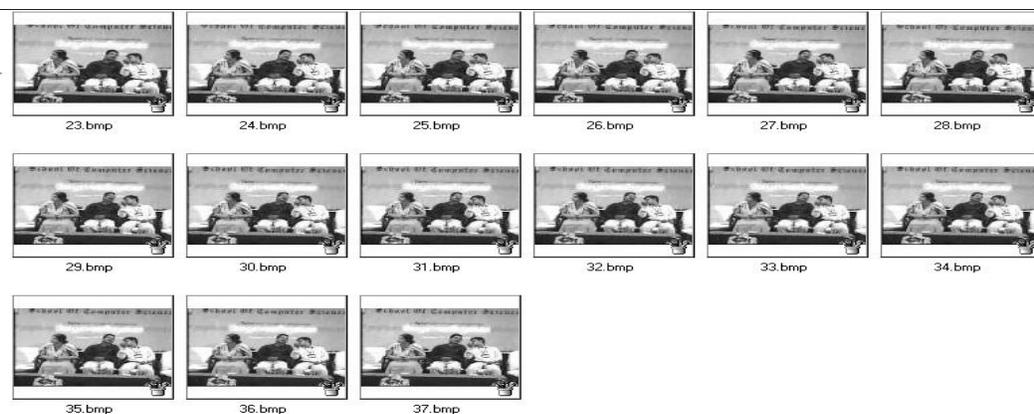


Figure 5. Frame conversion

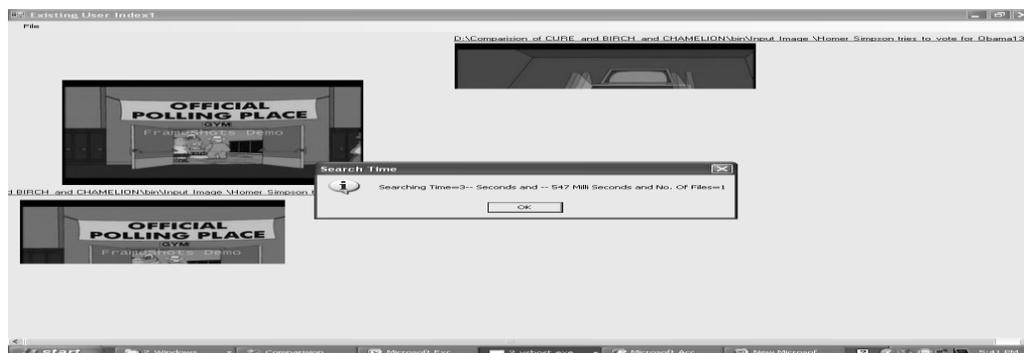
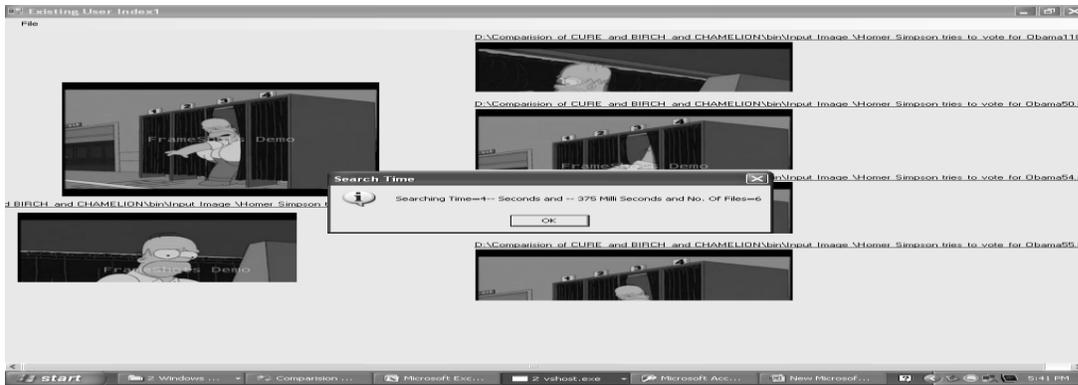


Figure 6. User input image



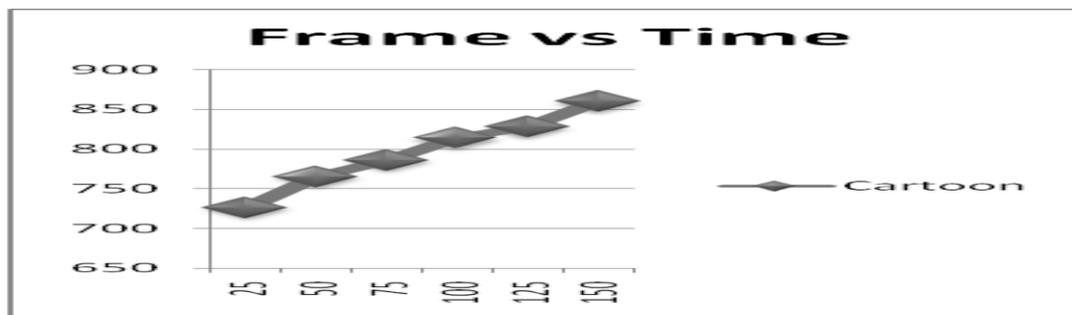
**Figure 7.** Object comparison operation



**Figure 8.** Object matching

Table 1 Object type Vs object formation in milli sec

frmcnt	milliseconds	category
15	858	Animation
30	825	Animation
45	897	Animation
60	887	Animation
75	852	Animation
90	845	Animation



**Figure 9.** Performance graph

## Conclusion

In this section the present image attributes, a new image extraction algorithm that overcomes the limitations of existing image extraction algorithms discussed. Image attributes, helps to separate the video frames it also helps to calculate the image pixel value. Technique based on color threshold values based on image attribute method it helps to predict the values with various parameters. This parameter values used to compare with original values.

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