**Content based video query technique for video retrieval and video making from large video compilation**

**Abstract:**

Content based video querying and video matching systems are popular in the recent technology. The content based video querying takes a sample video clip as an input query and performs the searching operation in the collection of videos which are stored in the video database. This proposal, introduces a novel content-based video matching and copy elimination system that finds the most relevant video segments from video database based on the given query video clip. For effective video copy elimination based on the feature extraction the proposed system applies the retrieval scheme. This performs the feature extraction, copy elimination and effective query matching from the video collections.

This project overcomes the problem of video frame mining based on effective Meta information’s and semantic similarity measures. The semantic similarity contains both textual and visual similarity measures. According to the discovered features and patterns, the query frame can obtain a set of relevant video frames in the refinement process. The proposed approach robustly identifies the duplicate frames and aligns the extracted frames, which containing the significant spatial and temporal differences.

Based on the feature extraction algorithm and semantic feature identification this applies a motion matching alignment scheme image alignment and video making with extracted clips in the large video database framework. For image analysis and synthesis the image information is transferred from the nearest neighbors to a query image according to the distance.

**Existing system**

Image similarity measurement and conceptual correlation measurement is the main problem in effective object identification and distance measurement. Most semantic analysis techniques are based on this similarity, it sometimes fails to reflect the sequence relationships. Those could able to find only the similarities between two objects rather than set of images. The sparseness is a problem that many correlations are missing due to the incompleteness of object sequence. The image alignment problem becomes more complicated for dynamic scenes in video sequences.

**Drawbacks:**

* The existing system only supports text based video retrieval
* Chances for several occurrences of duplicate videos
* Data retrieval efficiency is low
* Failed to retrieve non duplicate videos with the consideration of contents
* Waste of storage area.

**Proposed system:**

The proposed system finds the relevant video clips from a large dataset. Finding relevant video clips is not an easy task in knowledge and data engineering domain because objects in a video clip can constantly move over time. This effectively retrieves video based on the query image. This helps to avoid video searching problems. To perform this task efficiently, this proposes a novel video matching scheme. In order to improve the retrieval performance, this considers both semantic and visual features of objects.

In nature the visual information of video frames is temporally redundant. So the video sequence matching is not necessarily to be carried out using all the video frames. So the system proposes an effective way of reducing non-necessary matching and ranking process is to extract certain key frames to represent the video content. And the matching of two video sequences can be first performed by matching the key-frames along with the descriptor.

**Advantages:**

* The proposed content based video retrieval helps to retrieve video based on the input image
* So the users no need to remember by textual keywords.
* The data retrieval and maintenance is very effective
* Eliminates the duplicate video retrieval with the consideration of video content not by tag.
* Improves the search efficiency and decreases storage need

**SOFTWARE REQUIREMENT: -**

* Front End/GUI Tool : Jetbrayns Pycharm
* Operating System : Windows Family
* Language : Python
* Application : Windows Application
* Back End : Mysql

**HARDWARE REQUIREMENT: -**

* Processor : Intel dual core
* RAM : 4 GB
* Hard Disk Drive : 500 GB

**Modules:**

1. **Datasets**

The first module describes the dataset, which are used as input. The system initially collects and stores some user defined videos in the database. The system stores the video by frames.

The video data set may include any number of video files, about 30 records and data. The query videos are provided which are generated using the method in the following module. Specifically, each query is constructed by taking a segment of variable length from the test video data set. And the segment is embedded into a video which is not in the test data set.

1. **Frame analysis and feature extraction:**

The second module consists of the frame analysis and feature extraction. The histogram implementation has been applied in this module.

Feature extraction will transform an image into a matrix of visual objects. Here, this module has used uniform patches to divide the images since they require little computational cost and achieve similar performances compared to the complex features, each image is first divided into 8 \_ 8 pixel-sized patches. For each patch, the 8-bin texture histogram is calculated.

1. **Histogram analysis**

The Align Histogram module is a useful precursor to any image comparison routines such as template matching, cross correlation, stereo depth or simple image subtraction. The module takes as input two images and will align the colors in the "source" image with those specified in the "target" image. Thus if you wish to compare images with respect to colors this module will provide a way to greatly reduce different lighting and color shift effects that can happen between two successive image captures or even in simultaneous capture by different cameras.

1. **Spatio temporal details**

The visual appearance of a semantic concept in video has a strong dependency on the spatio-temporal viewpoint. So the need of spatio temporal detail extraction is high.

1. **Segmentation:**

In this module segmentation process to be handled. According to the image size the segmentation blocks will vary like 8X16, 4X16. Segmentation is a process of extracting and representing information from an image is to group pixels together into regions of similarity.

1. **Shot similarity matching:**

Dense SIFT: The dense SIFT features are a set of SIFT features which are extracted uniformly in each spatial location. Normally SIFT features are extracted at the salient locations, but dense SIFT features are proven as quite effective in image similarity matching.

In each equally divided grid, an optical flow is extracted even though the location has no salient feature.

1. **video retrieval:**

The fifth module generates the matching result graph according to the matching results. In the matching result graph, the vertex variable represents a match between query video and stored data.

To determine whether there exists an edge between two vertexes, two measures are evaluated in this module

the graph-based video sequence matching method has good scalability to the application based on sequence matching..

The proposed method can find the best matching sequence in many messy match results, which effectively excludes false “high similarity” noise and compensate the limited description of image low-level visual features. The graph-based method takes fully into account the spatiotemporal characteristic of video sequence, and has high copy location accuracy. The graph-based sequence matching method can automatically detect the discrete paths in the matching result graph. Thus, it can detect more than one copies.