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Face Recognition Based Media Player

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***Abstract*- In this project, we aim to provide a high-level media player which plays and pauses the audio by recognizing the user's face if the user isn't near to the machine, it quickly stops the audio. We are attempting to add a component of controlling different highlights of the media player.**

Keywords- Media Player, Camera.

I. INTRODUCTION

When someone is listening to the audio and the call came, we were interrupted or disappeared from the pc for a while, so we missed some part of the audio. Later we need to restart the audio where we listen to it. Here is the solution to this issue. The player also plays when the client is close to the pc. This is done using a camera or webcam over a computer. However, the longer a camera detects a client's face with a touch, the more media is played. The player is delayed when the client's face cannot be seen. This framework provides part of the controls for media items.

II. PROBLEM STATEMENT AND OBJECTIVES

The media player based on the Missionary Learning Partnership is gaining increasing attention among researchers in various premium regions over the years. In current businesses, we will talk about one of the functions of the PC concept, which is involved in creating an accurate framework.

In particular, we have a desire to see the availability of human customers and to follow his consideration while playing the music of his kind. Potential applications for this could include the development of Media players relying on face recognition. By identifying the face and following the given image, various figures have been introduced in recent years. All calculations have their advantages and disadvantages. However, any face tracking calculation will have a few errors that will cause deviations from the required article.

III. METHODOLOGY

1. Process and Description:
Kanade Lucas Tomasi (KLT) algorithm:
This algorithm is used to track a feature. It's a very popular item. The KLT algorithm was introduced by Lucas and Canada and their work was later expanded by Thomas and Canada. This algorithm is used to find scattered element points with enough texture to follow the required points at a good level.This Algorithm is used here to track people's faces continuously in the audio frame. This method is well known for them to obtain parameters that allow for the reduction of the variance between the feature points combined with the original translation model.

First, in this algorithm, we will calculate the migration of the points followed. From this migration calculation, it is easy to calculate the movement of the head. The facial features of the human face are now followed by an optical flow tracker. The KLT tracking algorithm downloads face in two simple steps, initially obtaining tracking points in the first frame and then tracking the independent control features that are effective using calculated migration.

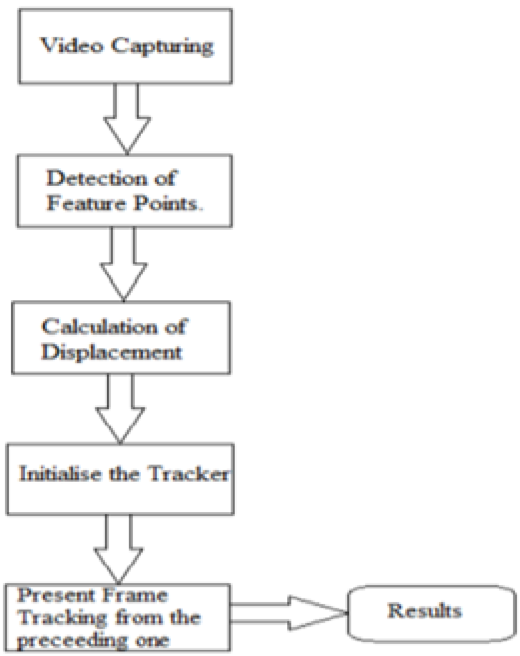

Fig 1. Methodology.

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IV. FACE RECOGNITION SYSTEM USING KLT VIOLA-JONES ALGORITHM

This algorithm detects Harris's angles and uses the flow of light to continue earning points by entering a computer's pixel motion of the image.

Let us assume that the first point in the corner is (x, y). In the next frame, if removed from a certain area with a certain variable vector (b1, b2, .bn), the corner point removed from the frame will be the sum of the first point and the moving vector. The link for the new point will be x = x + b1 and y = y + b2. Therefore, migration should now be calculated for each link. For this, we use a warp function which is a function that has links to the parameter and is displayed as W (x; p) = (x + b1; x + b2). The warp function is used to measure composition.

1. Viola-Jones Algorithm

This algorithm helps us to find facial features in a specific sound sequence framework. This is the first frame of acquisition that offers competition in real-time acquisition rates.

First, we train the system with Haar features [6 - 6]. Haar features are a kind of black and white rectangular box. The Haar feature is used to get real-time faces.

Haar features are a simple rectangular element with a difference in the number of pixels for areas within the rectangle. This veranda can be anywhere in the frame and can scale the image. This set of converted features is called a rectangular feature. Each type of feature may indicate the presence or absence of certain elements in a frame, such as edges or changes in shape.

These Haar features are used to determine facial features. The black part is used to determine the nasal aspect of a person's face as the black part describes the presence of a nose located in the center of the face. When the black part is defined as +1 and the white part is shown as - 1. The result is calculated by subtracting the total number of pixels under the white square from the total number of pixels below the black square. Initially, a certain limit is taken by certain factors. The average black and white color ratio are calculated. After that the difference is limited. If the value is above or equal to the limit, it is determined as the appropriate factor.

2. Integral Image Test:

The merged part of the image is used to merge all the pixels in a particular box to the left and over. Four values in the corner of this area should be cut. This avoids the concentration of each pixel in the region. This image modification process is integrated to simply speed up the pixel count process.

The calculation of the total number of pixels in part D is (1 + 4) (2 + 3) i.e. [A + (A + B + C + D)] - [(A + B + A + C)] which gives D. The authors described the basic detector solution as 24x24.

In other words, the whole picture frame should be separated by 24x24 subdivisions, and the elements are removed from all areas and scales for each subdivision window. This results in a complete set of rectangular features that count more than 160,000 elements in one lower window.

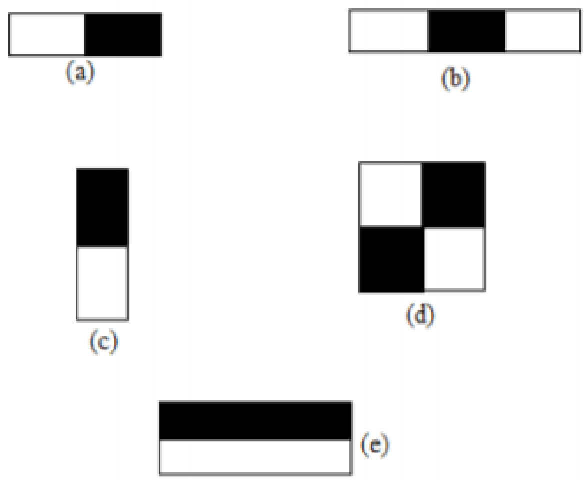

Fig 2. Text Here your Fig Title.

3. Algorithm:

We have proposed a single algorithm that uses the basic principles of the KLT Algorithm and the Viola-Jones Algorithm, but it works differently and is proven. We have used the concept of finding eigenvectors in live broadcasting and this large amount of work has never been done before in real-time programs, but audio broadcasting has been researched.

Get a face first, we have to get a face and use an idea, Cascade Object. The Detector System object is to detect the position of the face in the sound frame. The cascade object filter uses the Viola-Jones acquisition algorithm and a separate segmentation detection model. By default, the detector is set to face detection and can be used to detect other types of objects.

Following the face over time, our production uses the Canadian-Lucas-Tomasi (KLT) algorithm. You may use a cascade detector for all frames, it costs a computer. It may be difficult to find a face when the subject turns or tilts its head. This limitation arises from the type of professional separation model used for discovery. Our function detects faces only once, and then the KLT algorithm tracks face over sound frames default, the detector is configured to discover faces & it can be used to discover other types of objects.

To track the face over time, our execution uses the Kanade- Lucas-Tomasi (KLT) algorithm. You may use a cascade detector for all frames, it costs a computer. It may also break to discover the face when the subject turns or tilts his head. This restriction comes from the type of trained classification model used for discovery. Our work detects the face only once, & then the KLT algorithm tracks the face over the audio frames.

V. HARDWARE REQUIREMENTS

Linux or Windows machine Processor: Dual-core 2.6 RAM: 2.0 GHz Hard disk: 500 GB

VI. ADVANTAGES

The face recognition media player has the following benefits:

- Users cannot miss any part of the media.
- The audio stops when the user changes their view of the video so there is no need for users to continue dragging back to where they were wrong.
- You can send and rewind audio if needed.
- Save time and electricity.
- It gives accurate results.

V. CONCLUSIONS

The main concern of this project is to help the user get a better experience using the media player. We have tried to achieve this goal by making the media player more comprehensive. We do this by using face recognition to control various aspects of the media player such as pausing and starting the video and when the user does not look at the screen and controls functions such as transfer, rewind, volume keys, and volume keys.

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