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Controlling Media Player Using Hand Gestures

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OUTLINE

INTRODUCTION

- Artificial intelligence is used to define machines or computers that mimic functions of human mind such as learning and problem solving.
- Nowadays face recognition is used commonly for identifying and verifying the face from digital images or video frames.
- When we watch a video,if interrupted in between,we miss some part of the video.
- In the existing systems, face detection and hand gesture recognition has been primarily conducted in a constrained environment as well as the accuracy rate is poor.
- We propose a system called media player controller using hand gestures by using CNN method for avoiding further interruptions.

PROBLEM IDENTIFICATION

- When we watch a video,if interrupted in between,we miss some part of the video.
- In existing systems, face detection and hand gesture recognition has been primarily conducted in a constrained environment as well as the accuracy rate is poor.
- In the proposed system we are using face detection and hand gestures recognition system for controlling media player.

LITERATURE SURVEY

[1]Controlling of windows media player
Authors: N. Krishna Chaitanya and R. Janardhan Rao

- This application using hand gesture recognition system uses various hand gestures as input to operate the windows media player application.
- In this system different image processing techniques are used like feature extraction and classification tool for recognizing the gesture in real time and appropriate command to the windows media player.
- This system only supports windows media player application and not any others.

LITERATURE SURVEY

[2] Hand Gesture Recognition System Using Camera
Authors: Viraj Shinde, Tushar Bacchav, Jitendra Pawar, Mangesh Sanap

- This paper proposes gesture recognition using camera. Here in hand gesture recognition system contain 3 stages;
- The first stage is object detection. Many environment and image problems are needed to solve at this stage to ensure that hand contours or regions can be extracted
- The second stage is object recognition. They are used to recognize the gesture.
- After detecting the hand, we represent it as a time series curve.
- This paper represents about the low complexity algorithm and gestures recognition complexity and is also suitable for controlling real time computer system.
- The main drawbacks of this paper is that it can only be applicable for PowerPoint presentation

LITERATURE SURVEY

[3]A Vision based Hand Gestures Interface for Operating VLC Media Player
Atthors: Anupam Agrawal and Siddharth Swarup Rautaray

- In this system Lucas Kanade Pyramidical's Optical Flow algorithm has been used to recognize moving points in the input image.
- The K nearest neighbour algorithm has been used to recognize various gestures and also used to find the center of the hand.
- This system uses database that consists of various hand gestures and the input was compared with this stored image according to the player.
- The major disadvantage is that this application is less robust in recognition phase.

LITERATURE SURVEY-EXISTING SYSTEM

- The existing system mainly focuses on usage of both face and hand gestures.
- Image accuracy is less and implementation using both hand and face together can cause complications.
- So we plan of implementing advanced media player controller which can be accessible,thus provide a better experience

PROPOSEL

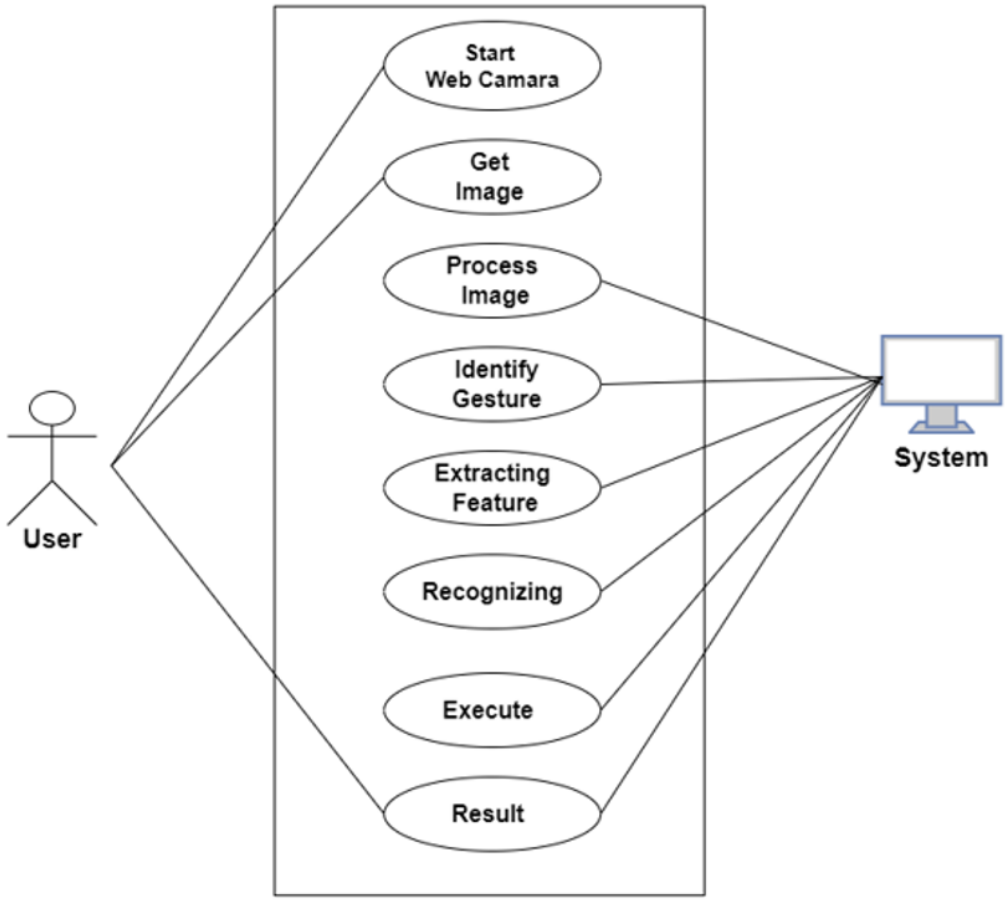
- We propose a system to control media player using hand gestures.
- Here convolution Neural Network is used in finding features that are uniquely described in the image.
- The hand image is already extracted, cropped and resized, and usually converted in the grayscale.
- When the camera recognizes the image the player starts running and stops when not in use.

PROPOSEL

- By performing predefined gestures users can make use of various media player functions.
- We plan to put forth more number of gestures techniques such as play,pause, playing next and previous video and stop.
- Steps for hand gesture recognition are as follows:
  1.Input image
  2. HSV
  3. Binary image
  4. Convex Hull
  5. Convexity Defects

PROPOSED SYSTEM AND DESIGN(contd..)

Use case Diagram

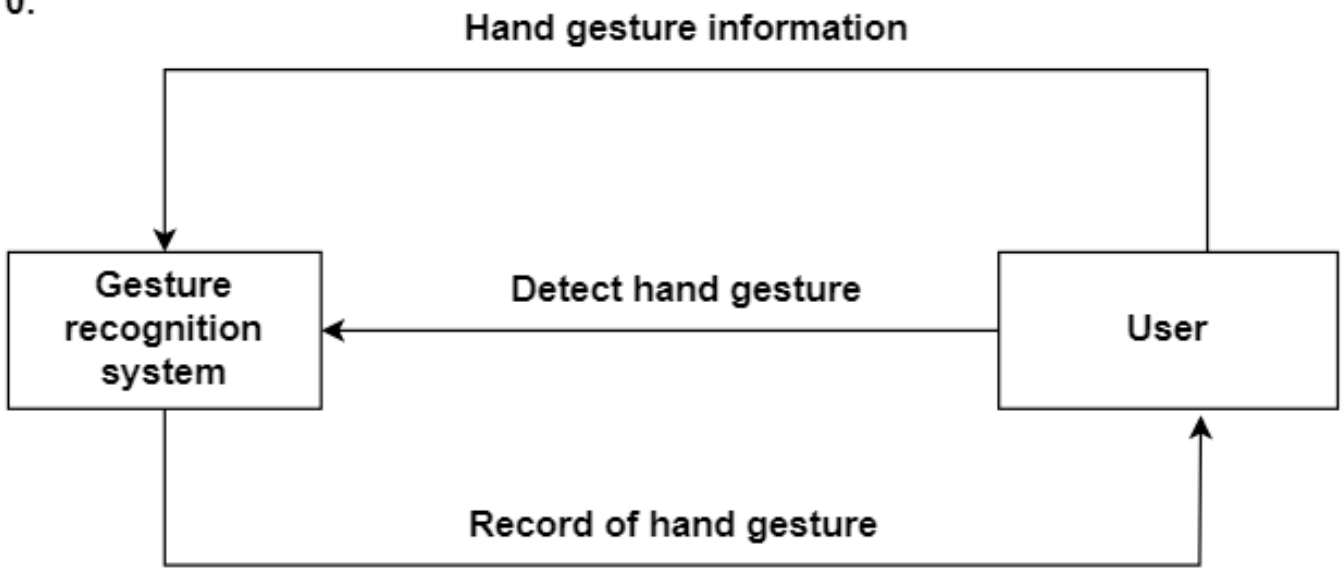


PROPOSED SYSTEM AND DESIGN(contd..)

Data Flow Diagram:

Data flow diagram:

Level 0:



PROPOSED SYSTEM AND DESIGN(contd..)

Level 1 :

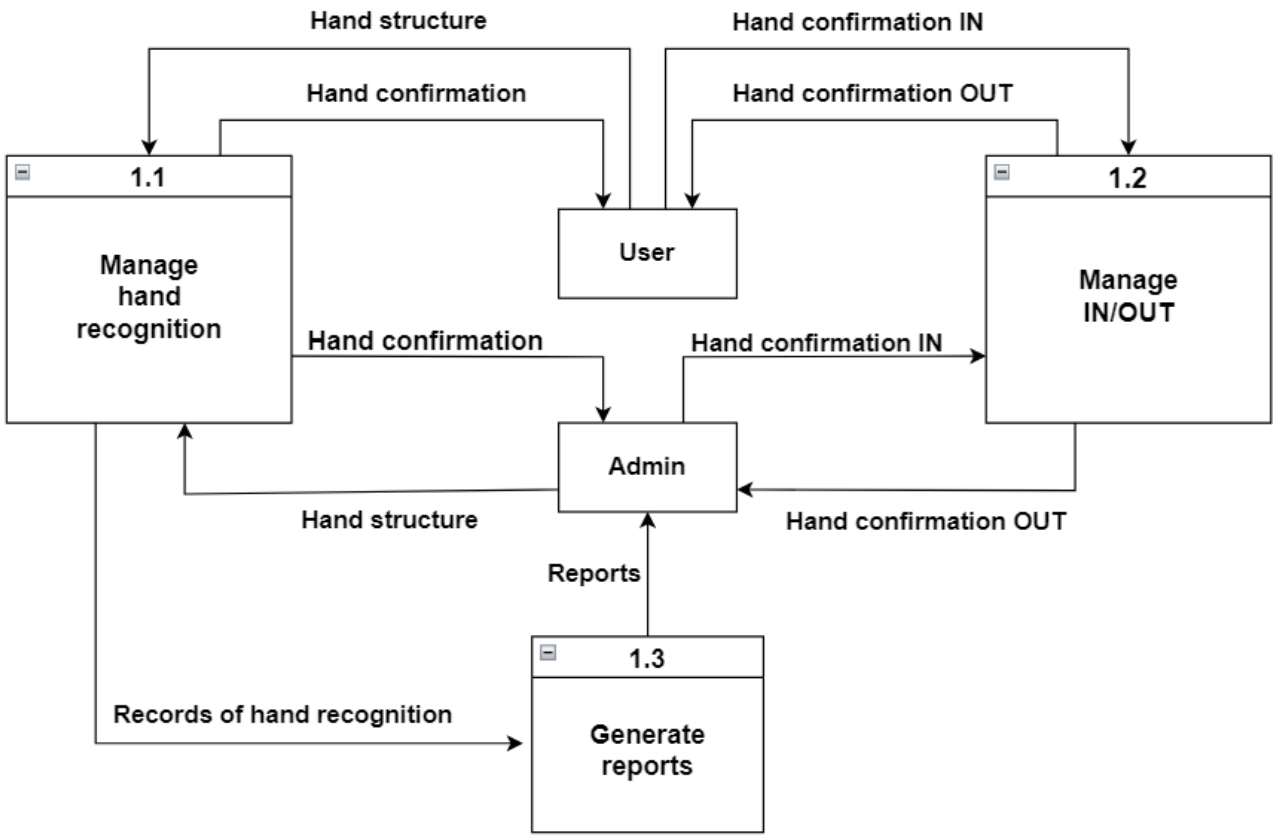
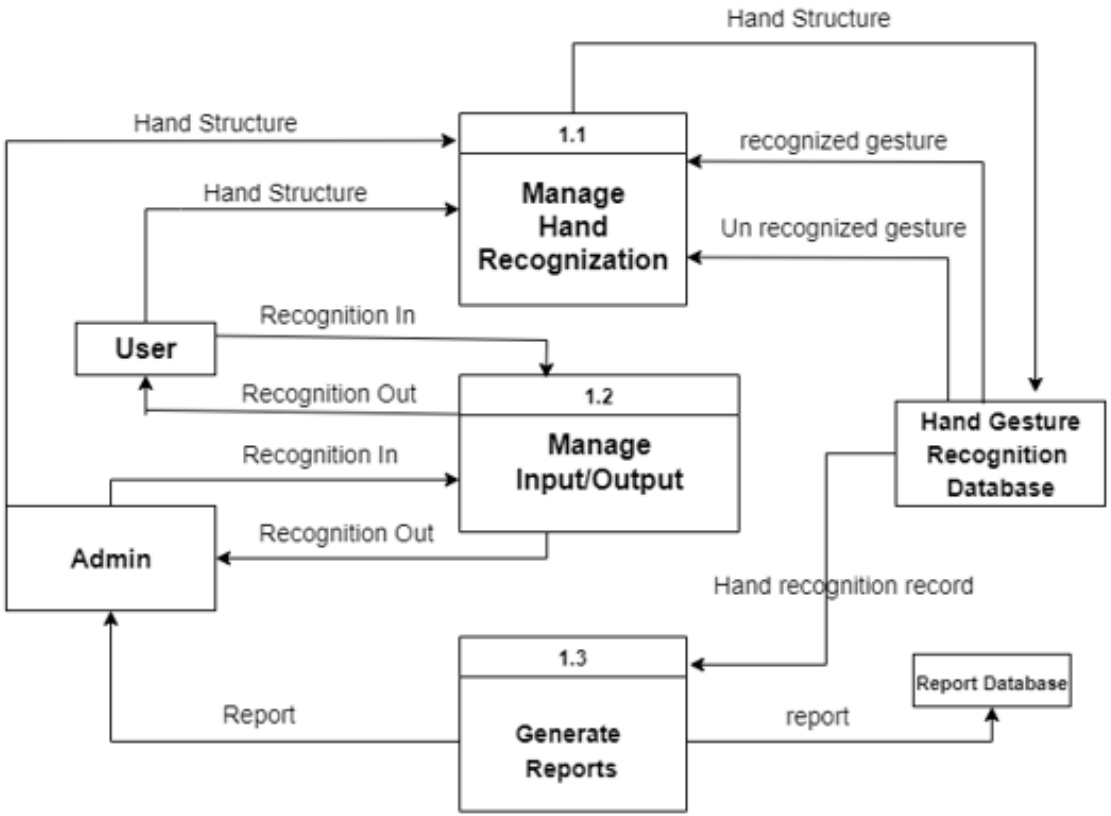


Figure: Level 0

PROPOSED SYSTEM AND DESIGN(contd..)

Level 2 :



PROPOSED SYSTEM AND DESIGN(contd..)

Er Diagram :

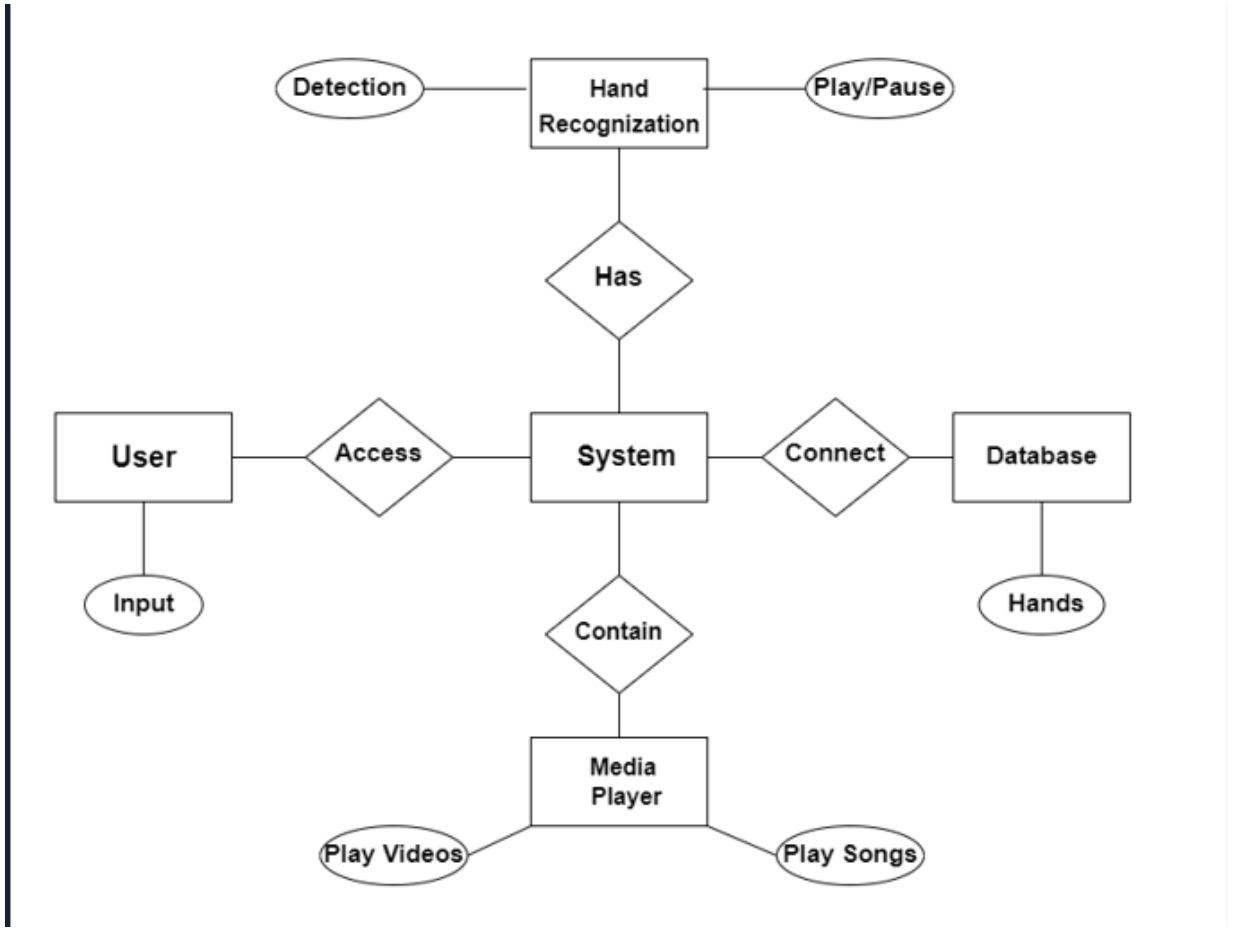


Figure: Er Diagram

CONCLUSION

- The user gets better experience of using advanced media player.
- Image accuracy is more accurate and recognises faster.
- Hand gesture recognition is used for controlling the functions of the media player, helps the user to watch keyboard and mouse freely.
- This project can be further enhanced to detect the facial recognition or voice recognition for controlling the media player accordingly.

REFERENCES

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