HAND GESTURE RECOGNTION BY USING THE OPEN SOURCE COMPUTER VISION

ABSTRACT:

Hand gesture recognition system is used for interfacing between computer and human using hand gesture. We wish to make a windows-based application for live motion gesture recognition using webcam input in C++. This project is a combination of live motion detection and gesture identification. This application uses the webcam to detect gesture made by the user and perform basic operations accordingly. The user has to perform a particular gesture. The webcam captures this and identifies the gesture, recognizes it (against a set of known gestures) and performs the action corresponding to it. Gestures we are recognizing in the project okay peace, thumbs up, thumbs down, call me, rock, fist, smile.

INTRODUCTION:

Gesture recognition is an active research field which tries to integrate the gestural channel in Human Computer Interaction. It has applications in virtual environment control , but also in sign language translation , robot remote control or musical creation . Recognition of human gestures comes within the more general framework of pattern recognition. In this framework, systems consist of two processes: the representation and the decision processes. The representation process converts the raw numerical data into a form adapted to the decision process which then classifies the data. Two main families of gesture acquisition systems, device-based and vision-based, can be considered. In device-based systems, the acquisition of gestures is made by a physical device that directly measures some characteristics of the gesture, generally the different joint bending angles. A good review of device-based inputs is given in . In vision-based systems, the gesture is captured by a camera. The main advantage of the vision-based approach is its unconstrained nature.

EXISITNG METHOD:

* Threshold process
* Feature extraction classification

DISADVANTAGES

* Information of image is less
* Reducing the image classification accuracy

PROPOSED METHOD:

* Neural network model
* Binary Threshold
* Open Cv module

BLOCK DIAGRAM

DATABASE GESTURES

CLASSIFICATION

ADAPTIVE THRESHOLD

IMAGE AQCUISITION

DECISION OF GESTURE

ADVANTAGES

* Classification of gesture is clear
* We can add the dataset
* User defined requirements should be done

APPLICATIONS

* Textile Industrial areas
* Dumb people and paralyzed people can use
* Gesture recognition
* Medical application

SOFTWARE REQUIREMENTS:

* PYTHON,ANACONDA NAVIGOTAR
* OPEN CV MODULES

HARWARE REQUIREMENTS:

* WINDOWS OS PC
* MINIMUM 2GB RAM

References

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