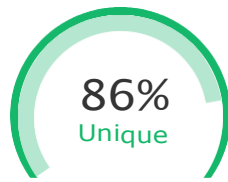


Plagiarism Scan Report



Characters:1228
22

Words:19033

Sentences:1062

Speak Time:
13 Min

Excluded URL

None

Content Checked for Plagiarism

In the era of digital world, traditional art of writing is being replaced by digital art. Digital art refers to forms of expression and transmission of art form with digital form. Relying on modern science and technology is the distinctive characteristics of the digital manifestation. Traditional art refers to the art form which is created before the digital art. From the recipient to analyse, it can simply be divided into visual art, audio art, audio-visual art and audio-visual imaginary art, which includes literature, painting, sculpture, architecture, music, dance, drama and other works of art. Digital art and traditional art are interrelated and interdependent. Social development is not a people's will, but the needs of human life are the main driving force anyway. The same situation happens in art. In the present circumstances, digital art and traditional art are inclusive of the symbiotic state, so we need to systematically understand the basic knowledge of the form between digital art and traditional art. The traditional way includes pen and paper, chalk and board method of writing. The essential aim of digital art is of building hand gesture recognition system to write digitally. Digital art includes many ways of writing like by using keyboard, touch-screen surface, digital pen, stylus, using electronic hand gloves, etc. But in this system, we are using hand gesture recognition with the use of machine learning algorithm by using python programming, which creates natural interaction between man and machine. With the advancement in technology, the need of development of natural ' (HCI) systems to replace traditional systems is increasing rapidly. Object tracking is considered as an important task within the field of Computer Vision. The invention of faster computers, availability of inexpensive and good quality video cameras and demands of automated video analysis has given popularity to object tracking techniques. Generally, video analysis procedure has three major steps: firstly, detecting of the object, secondly tracking its movement from frame to frame and lastly analysing the behaviour of that object. For object tracking, four different issues are taken into account; selection of suitable object representation, feature selection for tracking, object detection and object tracking. In real world, Object tracking algorithms are the primarily part of different applications such as: automatic surveillance, video indexing and vehicle navigation etc. Another application of object tracking is human computer interaction. Different researchers proposed many algorithms which are categorically divided into two main approaches: image-based approach and Glove based approach. Image

based approach requires images as input in order to recognize the hand (object) movements. On the other hand, Glove based approach require speci c hardware which includes special sensors etc. Such applications are bene cial for disabled people. In this paper, a real time fast video-based ngertip tracking and recognizing algorithm is presented. The proposed algorithm has two major tasks: rst it detects the motion of coloured nger in video sequence and then applies OCR (Optical Character Reorganization) in order to recognize the plotted image. Proposed method is software-based approach while in literature, almost all existing nger tracking based character recognition system require extra hard ware e.g., (LED) pen, Leap Motion controller device etc. Furthermore, for recognition they perform comparison operation in order to recognize the input character but for our proposed system we apply OCR for character recognition. As a result of which our computational time is much reduce than. Basically AW is a form of input that helps a person to write or sketch in free space using their ngertips. AW, like motion gestures, is recorded as a regular stream of information including a series of hand and nger motions. Air-writing differs from traditional writing in that the latter employs a paper pen-based writing system, while the former uses an abstract board in the air. Unlike handwriting characters, those created in three-dimensional space lack the pen-up and quill detail that turns intra letters into sunstrokes. According to a review, air-drawn letter recognition is as effective as expression. The identi cation of airdrawn letters is not a simple sweep or rotating hand gesture but can represent different symbols. Writing in the air is sometimes used as a means of communication in this situation, particularly when interacting with those that are far away. "Many utilizing various types of sensors to reliably detect free-air motions in three-dimensional space. Yanmei and Chen et al" A.'s Actual Dynamic Handwriting Recognition Framework Using Sensor Module" is one example. Hand detection, data analysis, model training, and gesture classi cation are all part of this real-time Kinect-based dynamic HGR framework. As recognition algorithms, the Hidden Markov Model (HMM) and Support Vector Machine (SVM) are used. The identi cation rate for gestures G, C, O, and V was less than 50%, bringing the overall average rate down to 82.86 percent of HMM. SVM, on the other hand, graded almost all of the movements as 100%, but 60% on gesture O, resulting in a 95.42 percent overall annual average". Tsuchida et al report, "Written letter identi cation in the Air by Using Leap way of Controller," recognizes 46 Japanese Katakana symbols and 26 alphabets with an overall recognition rate of 86.7 percent, with 84.54 percent precision for recognizing the English alphabet. Besides, in 2015, Jayesh Kumar Sharma et al. published "Numeral Gesture Recognition with Leap Motion Sensor," and was using the Mathematical Face Recognition device and the Leap Cellular Modem to track free air digit gestures from 0-9. Position spotting, feature recognition, gesture tracking, preparation, and classi cation were the three phases of the method. The algorithm's drawback, on the other hand, is that it fails to recognize expressions with an open curve. As a result, the system was only able to reach a classi cation rate of 70.2 percent. The main issue in previous studies was lettered with curves, especially open

curves. Other recent experiments have issues with the letter's size and form.

The system's consistency rating continues to drop as a result of misclassified letters.

Figure1.1 Flowchart

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