VIRTUAL MOUSE

VIVEK KUMAR

Inroduction

- Virtual Mouse
  - As computer technology continues to develop, people have smaller and smaller electronic devices. Increasingly we are recognizing the importance of human computing interaction (HCI), and inparticular vision-based gesture and object recognition.
  - In our project, we propose a novel approach that uses a video device to control the mouse system(Mouse tasks).
  - We employ several image processing algorithms to implement this.

Project Scope

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  - For most laptop touchpad is not the most comfortable and convenient.
  - Virtual mouse, known as Virtual Multitask Mouse.
  - This is real time application.
  - User friendly application.
  - This project removes the requirement of having a physical

  - Controlling Mouse:-
  - Weighted speed cursor control. We get a difference of the finger of the current image and the previous image and compute the distance between the two.
  - Next, we move the mouse cursor if the gap between the two finger images (current and previous frame) is far then the mouse cursor moves fast or, if the gap is close then the cursor moves slow.

Goal and Objective

- Virtual Mouse Goal and Objective
  - The goal is to manage computers and other devices with gestures rather than pointing and clicking a mouse or touching a display directly.
  - Backers believe that the approach can make it not only easier to carry out many existing chores but also take on trickier tasks such as creating 3-D models, browsing medical imagery during surgery without touching anything.
  - Reduce cost of hardware.

Problem Statement

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  - To design virtual mouse which detects hand gestures patterns instead of physical mouse.
  - Basically we use colored tips for detection which are captured by webcam.
  - Here, the colored fingertip acts as an object which the web cam senses.
  - The camera is positioned such that it recognizes the moment of finger tips and performs the operations of mouse.
  - The utilization of virtual mouse appears in space saving situations or in movement situation.

- Literature Survey
  - HCI Technology Human-computer interaction (HCI) is an area of research and practice that emerged in the early 1980s.Gesture Recognition Gesture recognition is the mathematical interpretation of a human motion by a computing device. Using Palm Using Glove

DESIGN

- Architecture There are following laye
- Interface Layer
- Process Layer
- Data Manupulation Layer
- Data Layer
- Image Resize:-Map camera coordinates to screen coordinates.
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Advantages

- Image Resize:-Map camera coordinates to screen coordinates.
- Reduce hardware cost by eliminating use of mouse.
- Convenient for users not comfortable with touchpad.
- The framework may be useful for controlling different types of games and other applications dependent on the controlled through user defined gestures.