# "Cursor Global Positioning Framework"

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## ABSTRACT

*A Tracking driven mouse framework, called "Cursor Global Positioning Framework", is created for controlling sans hand perceptual UIs. The framework comprises of strong continuous head tracker, a head present/movement assessor, and a virtual mouse control module. For the Cursor Global Positioning Framework, we proposed recognition/following corresponding exchanging system with an intelligent circle. Based on the solid following outcomes, Cursor Global Positioning Framework computes the clients head move, slant, yaw, scaling, flat and vertical movement for additional mouse control. Cursor position is explored and finds tuned by computing the overall position of following window in picture space and the clients head slant. After mouse cursor is explored to the ideal area, head move pivot triggers virtual mouse button clicks. Exploratory outcomes shows that Cursor Global Positioning Framework prevails under the situation of client bouncing, outrageous development, enormous degree pivot, pivoting, hand/object impediment, part face of camera shooting district, what's more, multi-clients impediment. The principle objective is to build up a pointing gadget constrained by head development that gives something similar functionalities as a customary a mouse and it assesses the presentation of the proposed framework when it would be work by quadriplegic clients. HCI gives the fresher advances for individuals with physical, intellectual tangible or informative incapacities identified with the field of PC access gadget and to the field of assistive innovation.*

## 1. TITLE

A Tracking driven mouse framework, called "Cursor Global Positioning Framework", is created for controlling sans hand perceptual UIs. The framework comprises of strong continuous head tracker, a head present/movement assessor, and a virtual mouse control module. It is usefull of handicap people

### 1.1 PROBLEM DEFINITION

To create a system that could be as quick as a keyboard and did not require that the person had ten fingers or ability to use the keyboard.

This application is designed to allow disabled people who write in a conventional virtual keyboard. Using a new concept foe character input without using the keyboard.

### 1.2 MOTIVATION

We are implementing an application which is based on head movement based mouse functionality. It works on computer equipped with a web camera. In this application we will provide an interface of facial movement

and turn it into movements and actions for the mouse. Thus, people who are facing the difficulty in using the hand for movement of mouse cursor can handle or make the operation of cursor with the help of head movements.

## 2 system requirements

### 2.1 Software Requirements

1. Platform: Windows 7 and above
2. Programming Languages: Python
3. Tools Used: Python IDLE 3.10.5

### 2.2 Hardware Requirements

1. Intel Core Processor
2. RAM 2GB and above.
3. Hard Disk 256 GB and above.

## 3 NONFUNCTIONAL REQUIREMENTS

- A system with Windows 7 & above or Linux operating system
- Accessible libraries for design coordinating with calculation
- Advancement Environment Requirements
- Python IDLE
- Web camera

### 4.1 SYSTEM ARCHITECTURE

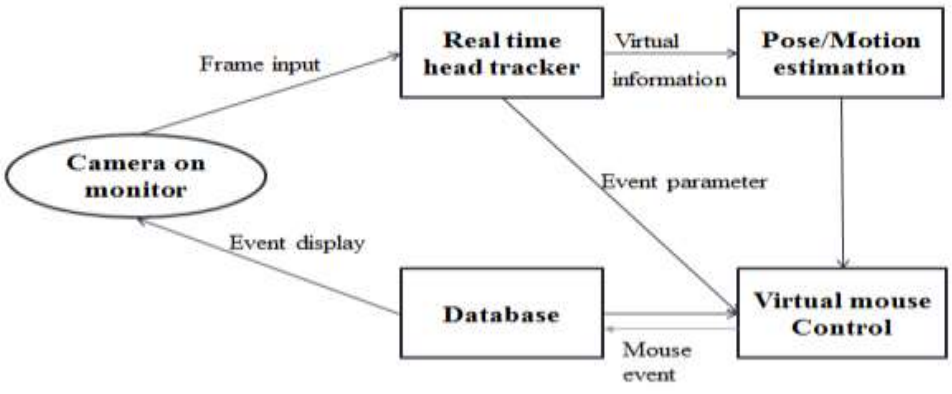


**Fig.1 System Architecture**

**4.2 Activity Diagram-**

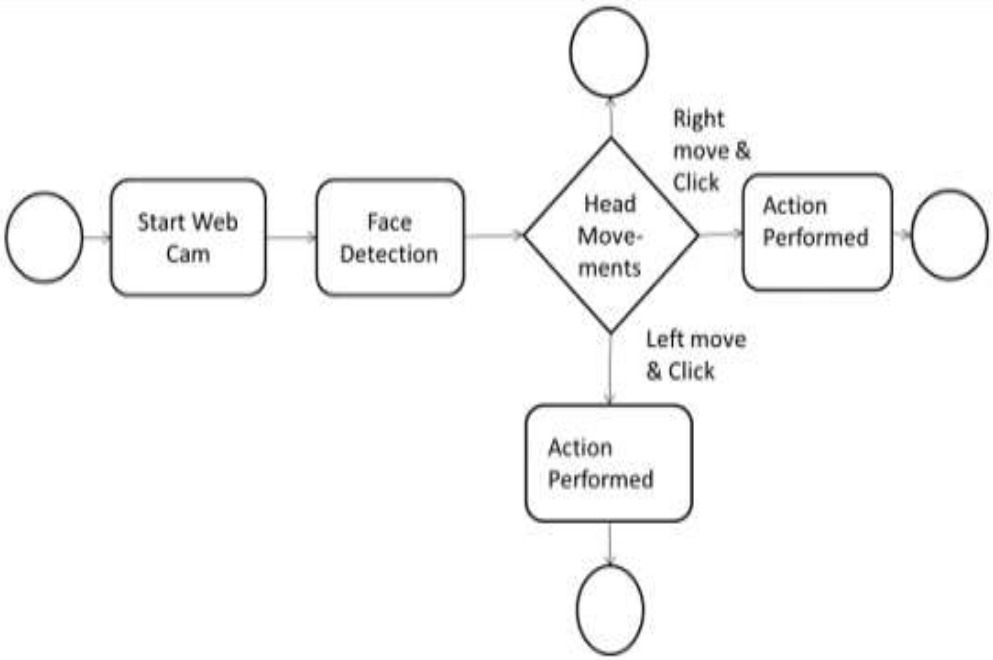


**Fig.5 Activity Diagram**

## 4.FURURE SCOPE

It is a let loose line that permits a truly moved client to control the pointer of the mouse on a processor with the assistance of head developments. The developments of head are freed clicking with the assistance of mouse pointer with stand over a spot on the screen Control of gadget like mouse, wheel – seats, vehicles we can handle the gadgets like mouse wheel seats and vehicles by utilizing head recognition-based framework controlling. With mix of advanced mechanics and picture preparing we can make robot proceeded onward the head developments by perceiving head signals. In clinical field likewise it tends to be utilized. It very well may be finished by finding the developments made by human body, which PC comprehends deciphers it right into it or reaction. Control of PC gadgets in computerized vehicles in robotized vehicles delivers occupied in driving so we can utilize this product by taking care of vehicle PC utilizing head discovery-based mouse.

## 5. CONCLUSIONS

This is a framework which gives another option in contrast to the mouse utilization. Mouse is replaced with a feature where the cursor moves as per the user moves his head. It chips away at PC furnished with a web camera. In this application we will give an interface of facial development and transform it into developments and activities for the mouse. Accordingly, individuals with trouble in moving hand can handle the mouse cursor just with the developments of the face. So it is effectively versatile to worker the exceptional requirements of individuals with different incapacities.

## 6. REFERENCES

[1] Dharmaraj Ojha, Rajesh George Rajan, "Histogram based Human Computer Interaction for Gesture Recognition" - 978-1-7281-0167-5/19/$31.00 ©2019 IEEE.

[2] Vinay S Vasisht, Swaroop Joshi, Shashidhar, Shreedhar, C Gururaj "Human computer interaction based eye controlled mouse" - 978-1-7281-0167-5/19/$31.00 ©2019 IEEE.

[3] Khushal Sancheti, Sridhar Krishnan K, Suhaas A, Suresh P "Hands-free Cursor Control using Intuitive Head Movements and Cheek Muscle Twitches"- 978-1-5386-5457- 6/18/$31.00 ©2018 IEEE.

[4] Aashni Haria, Shristi poddar, Joyothi S `` Hand Gesture Recognition for Human Computer Interaction," 7th International Conference on Advances in Computing & Communications, ICACC-2017, 22- 24 August 2017, Cochin, India.