Wireless sound control

ABSTRACT

The invention provides a wireless sound control video interaction entertainment system and device. The interaction entertainment device provides control in changing colume for respective devices. On the basis of a concise frame structure and a hardware platform, with hardware being replaced by software which is given priority, and in a wireless transmission mode, the interaction entertainment system and device can realize the functions of remote information acquisition and video information real-time sharing and the like environment parameters are monitored in real time through the intelligent wireless sensor; and thus a set of complete intelligentized singing platform which integrates sounding, control and environmental protection into one body is formed.

INRODUCTION

Wireless sound control high resolution and video interactive delight system and equipment. Technical field The present invention relates to a kind of entertainment systems and equipment, particularly a kind of wireless sound control and video interactive equipment. Background technology The application of Radio Transmission Technology is more and more extensive, and along with the develop rapidly of Display Technique and visual technique, in the daily entertainment life of people, be unableing to do without already the various of high definition media information has applied, but people need to public place, to go to enjoy high-quality media KTV amusement conventionally, or cost substantial contribution is bought loaded down with trivial details all kinds of media play and the stereo set of structure, and the environmental aspect of all having ignored indoor activity region.This wireless sound control used to control sounds in the systems. Summary of the invention Object of the present invention is exactly in order to overcome the deficiency of prior art, and a kind of intelligent wireless sound control and video interactive delight system and equipment of reasonable in design, reliable operation is provided.

In [1]:

```
pip install opencv-python
```

```
Requirement already satisfied: opencv-python in c:\users\deven_usg6wwo\anaco
nda3\lib\site-packages (4.6.0.66)
Requirement already satisfied: numpy>=1.14.5 in c:\users\deven_usg6wwo\anaco
nda3\lib\site-packages (from opencv-python) (1.21.5)
Note: you may need to restart the kernel to use updated packages.
```

In [2]:

```
pip install pyforest
```

```
Requirement already satisfied: pyforest in c:\users\deven_usg6wwo\anaconda3
\lib\site-packages (1.1.0)
Note: you may need to restart the kernel to use updated packages.
```

In [3]:

```
pip install mediapipe
```

Requirement already satisfied: mediapipe in c:\users\deven_usg6wwo\anaconda3
\lib\site-packages (0.9.0.1)
Requirement already satisfied: numpy in c:\users\deven_usg6wwo\anaconda3\lib
\site-packages (from mediapipe) (1.21.5)
Requirement already satisfied: opencv-contrib-python in c:\users\deven_usg6w
wo\anaconda3\lib\site-packages (from mediapipe) (4.6.0.66)
Requirement already satisfied: protobuf<4,>=3.11 in c:\users\deven_usg6wwo\a
naconda3\lib\site-packages (from mediapipe) (3.19.1)
Requirement already satisfied: matplotlib in c:\users\deven_usg6wwo\anaconda
3\lib\site-packages (from mediapipe) (3.5.1)
Requirement already satisfied: absl-py in c:\users\deven_usg6wwo\anaconda3\l
ib\site-packages (from mediapipe) (1.3.0)
Requirement already satisfied: flatbuffers>=2.0 in c:\users\deven_usg6wwo\an
aconda3\lib\site-packages (from mediapipe) (22.12.6)
Requirement already satisfied: attrs>=19.1.0 in c:\users\deven_usg6wwo\anaco
nda3\lib\site-packages (from mediapipe) (21.4.0)
Requirement already satisfied: packaging>=20.0 in c:\users\deven_usg6wwo\ana
conda3\lib\site-packages (from matplotlib->mediapipe) (21.3)
Requirement already satisfied: fonttools>=4.22.0 in c:\users\deven_usg6wwo\a
naconda3\lib\site-packages (from matplotlib->mediapipe) (4.25.0)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\deven_usg6ww
o\anaconda3\lib\site-packages (from matplotlib->mediapipe) (2.8.2)
Requirement already satisfied: kiwisolver>=1.0.1 in c:\users\deven_usg6wwo\a
naconda3\lib\site-packages (from matplotlib->mediapipe) (1.3.2)
Requirement already satisfied: pillow>=6.2.0 in c:\users\deven_usg6wwo\anaco
nda3\lib\site-packages (from matplotlib->mediapipe) (9.0.1)
Requirement already satisfied: cycler>=0.10 in c:\users\deven_usg6wwo\anacon
da3\lib\site-packages (from matplotlib->mediapipe) (0.11.0)
Requirement already satisfied: pyparsing>=2.2.1 in c:\users\deven_usg6wwo\an
aconda3\lib\site-packages (from matplotlib->mediapipe) (3.0.4)
Requirement already satisfied: six>=1.5 in c:\users\deven_usg6wwo\anaconda3
\lib\site-packages (from python-dateutil>=2.7->matplotlib->mediapipe) (1.16.
0)
Note: you may need to restart the kernel to use updated packages.

In [1]:

```
import cv2
```

In [2]:

```
import mediapipe as mp
```

In [3]:

```
import math
import numpy as np
```

In [4]:

```
pip install pycaw
```

Requirement already satisfied: pycaw in c:\users\deven_usg6wwo\anaconda3\lib
\site-packages (20220416)
Requirement already satisfied: psutil in c:\users\deven_usg6wwo\anaconda3\li
b\site-packages (from pycaw) (5.8.0)
Requirement already satisfied: comtypes in c:\users\deven_usg6wwo\anaconda3
\lib\site-packages (from pycaw) (1.1.10)
Note: you may need to restart the kernel to use updated packages.

In [5]:

```
from ctypes import cast, POINTER
from comtypes import CLSCTX_ALL
from pycaw.pycaw import AudioUtilities, IAudioEndpointVolume
devices = AudioUtilities.GetSpeakers()
interface = devices.Activate(
    IAudioEndpointVolume._iid_, CLSCTX_ALL, None)
volume = cast(interface, POINTER(IAudioEndpointVolume))


print(volume.GetMasterVolumeLevel())
print(volume.GetVolumeRange())
#volume.GetMasterVolumeLevel()
#volume.GetVolumeRange()
#volume.SetMasterVolumeLevel(-20.0, None)
```

-13.61940860748291
(-65.25, 0.0, 0.03125)

In [6]:

```
cap=cv2.VideoCapture(0)
mpDraw=mp.solutions.drawing_utils
mpHands=mp.solutions.hands
hands=mpHands.Hands()
```

In [*]:

```python
while True:
    success,img=cap.read()
    imgRGB=cv2.cvtColor(img,cv2.COLOR_BGR2RGB)
    results=hands.process(imgRGB)
    #print(results.multi_hand_landmarks)

    if results.multi_hand_landmarks:
        for handLms in results.multi_hand_landmarks:
            lmList=[]
            for id, lm in enumerate (handLms.landmark):
                #print(id,ln)
                h,w,c=img.shape
                cx,cy=int(lm.x*w),int(lm.y*h)
                #print(id,cx,cy)
                lmList.append([id,cx,cy])
                print(lmList)
            mpDraw.draw_landmarks(img,handLms,mpHands.HAND_CONNECTIONS)
        if lmList:
            x1,y1=lmList[4][1],lmList[4][2]
            x2,y2=lmList[8][1],lmList[8][2]

            cv2.circle(img,(x1,y1),10,(255,0,9),cv2.FILLED)
            cv2.circle(img,(x2,y2),10,(255,0,9),cv2.FILLED)
            cv2.line(img,(x1,y1),(x2,y2),(24,86,127),3)

            length=math.hypot(x2-x1,y2-y1)
            print(length)

            if length <50:
                x1=(x1+x2)//2
                x2=(y1+y2)//2
                cv2.circle(img,(x1,x2),10,(27,64,134),cv2.FILLED)
        volRange=volume.GetVolumeRange()
        minVol=volRange[0]
        maxVol=volRange[1]
        vol=np.interp(length,[50,300],[minVol,maxVol])
        volBar=np.interp(length,[50,300],[400,150])
        volPer=np.interp(length,[50,300],[0,100])


        volume.SetMasterVolumeLevel(vol, None)
        cv2.rectangle(img,(50,150),(85,400),(126,58,234),3)
        cv2.rectangle(img,(50,int(volBar)),(85,400),(126,58,234),cv2.FILLED)
        cv2.putText(img,str(int(volPer)),(40,100),cv2.FONT_HERSHEY_COMPLEX,4,(126,58,234))



    cv2.imshow("Image",img)
    cv2.waitKey(1)
```

```
7], [19, 191, 476]]
[[0, 67, 520], [1, 93, 478], [2, 130, 443], [3, 169, 429], [4, 201, 422],
[5, 107, 405], [6, 171, 383], [7, 207, 403], [8, 224, 422], [9, 104, 41
9], [10, 170, 381], [11, 205, 405], [12, 217, 428], [13, 107, 442], [14,
171, 414], [15, 198, 436], [16, 203, 452], [17, 116, 472], [18, 172, 46
7], [19, 191, 476], [20, 193, 483]]
[[0, 384, 453]]
[[0, 384, 453], [1, 379, 424]]
```

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[[0, 384, 453], [1, 379, 424], [2, 369, 396], [3, 376, 372], [4, 388, 34
9], [5, 301, 402]]
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9], [5, 301, 402], [6, 259, 404], [7, 235, 406]]
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9], [5, 301, 402], [6, 259, 404], [7, 235, 406], [8, 213, 407]]
```

OUTPUT:
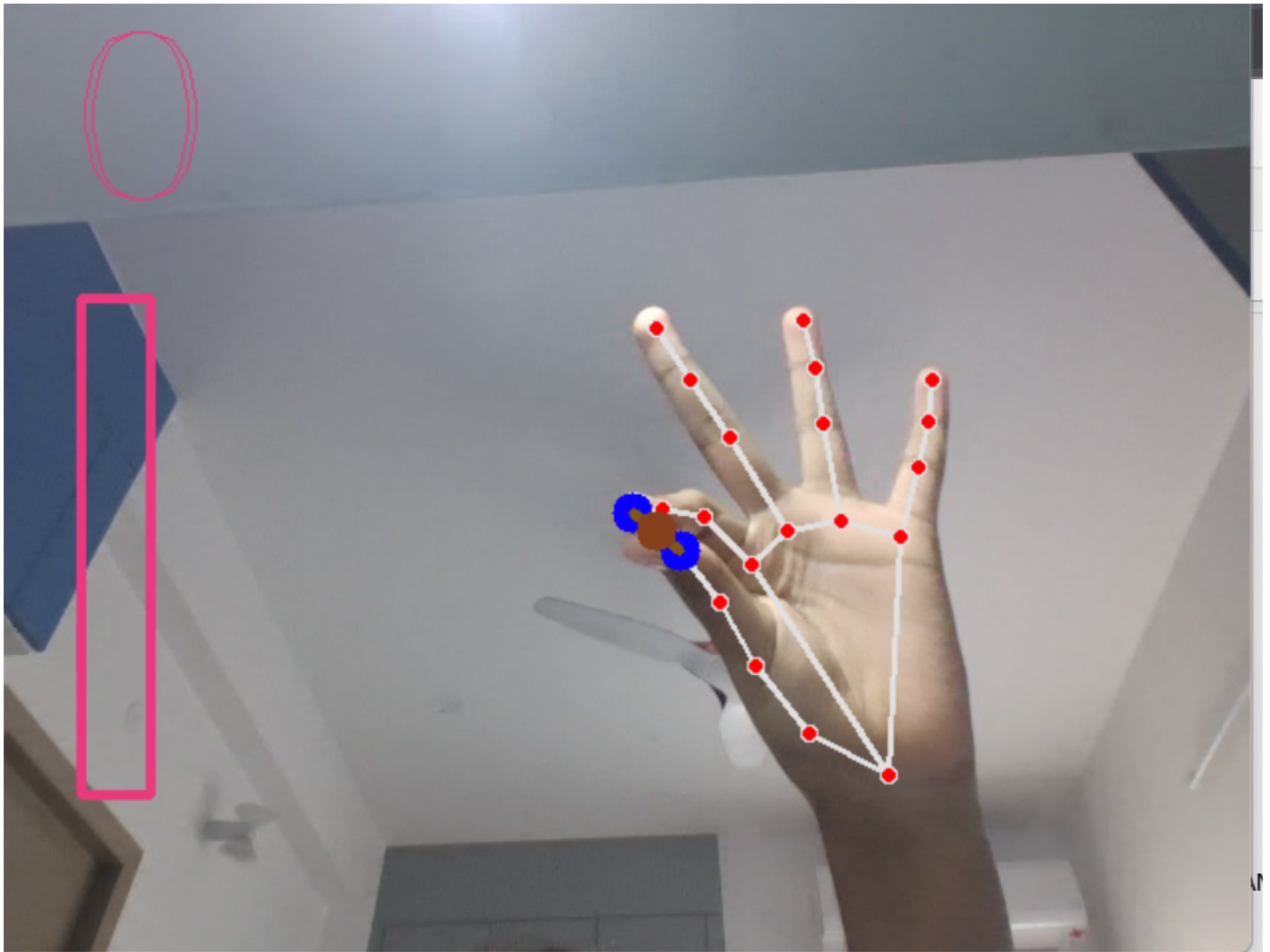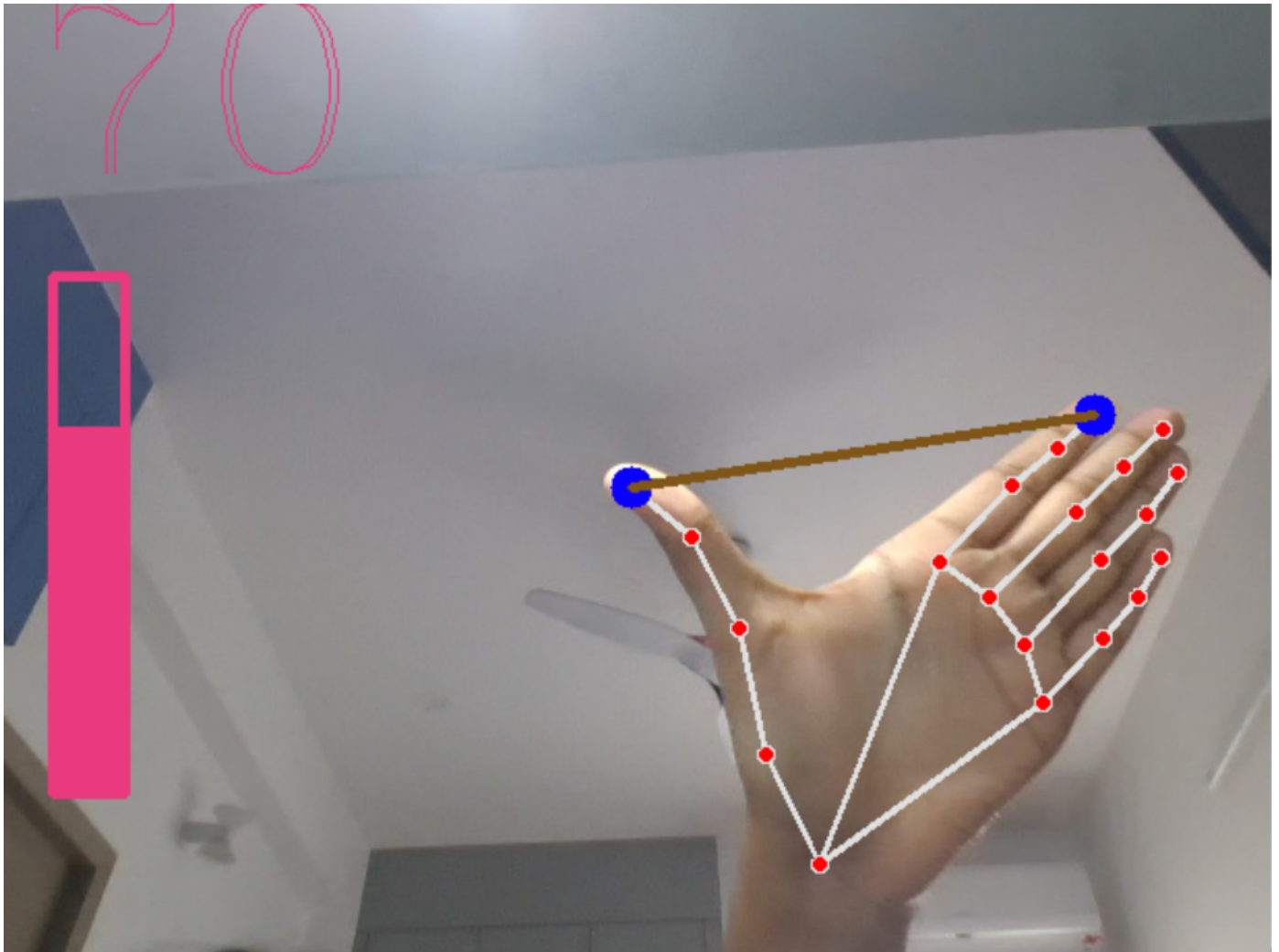
CONCULSION

Wireless sound control high resolution and video interactive system, includes intelligent mobile terminal, intelligent radio words. Cylinder, wireless sensor, have the interactive performance equipment of wireless medium, high definition sound equipment, home theater sound equipment, HDTV (High-Definition Television) and the vehicle-carried mobile sound equipment of wireless environment monitoring concurrently.With help of this project we can control the sound system of the equiments.