

```

{
  "cells": [
    {
      "cell_type": "code",
      "execution_count": null,
      "id": "778f3850",
      "metadata": {},
      "outputs": [],
      "source": []
    },
    {
      "cell_type": "markdown",
      "id": "563e4faf",
      "metadata": {},
      "source": [
        "# IBM Project Name: Real-Time Communication System Powered by AI for  
Specially Abled\n",
        "# TEAM ID: PNT2022TMID34274\n",
        "# TEAM LEADER"PRINCY S"
      ]
    },
    {
      "cell_type": "code",
      "execution_count": null,
      "id": "c497eb4d",
      "metadata": {},
      "outputs": [],
      "source": [
        "\n",
        "import cv2 #mporting opencv Library this i to open camera and take  
the video\n",
        "import numpy as np # to convert image to array and expand  
dimensions\n",
        "from tensorflow.keras.models import load_model # to Load the saved  
model\n",
        "from tensorflow.keras.preprocessing import image # to preprocess  
the image\n",
        "model = load_model(\"dataset.h5\") # we are loading the saved  
moodek\n",
        "video = cv2.VideoCapture(0) # two parameters 1, bool 0 or 1,  
frame\n",
        "index = [\"A\", \"B\", \"C\", \"D\", \"E\", \"F\", \"G\", \"H\", \"I\"]\n",
        "index=[ 'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I']\n",
        "#from playsound import playsound\n",
        "while(1):\n",
        "    success, frame = video.read()\n",
        "    cv2.imwrite(\"image.jpg\", frame)\n",
        "    img = image.load_img(\"image.jpg\", target_size = (64, 64))\n",
        "    x = image.img_to_array(img)\n",
        "    x = np.expand_dims (x, axis = 0)\n",
        "    pred = np.argmax(model.predict(x), axis=1)\n",
        "    p = index [pred[0]]\n",
        "    print(\"predicted letter is: \" + str(p))\n",
        "    #playSound(\"letter\"+str(str(index [p])+\"is detected\"))\n",
        "    cv2.putText (frame, \"predicted letter is \" + str(p), (100, 100),  
cv2. FONT_HERSHEY_SIMPLEX, 1, (0, 0, 0), 4)\n",
        "    cv2.imshow(\"showcasewindow\", frame)\n",
        "    \n"
      ]
    }
  ]
}

```

```

        "    if cv2.waitKey(1) & 0xFF == ord('a'):\n",
        "        break\n",
        "video.release()\n",
        "cv2.destroyAllWindows()"
    ]
},
{
    "cell_type": "markdown",
    "id": "e5fb95ee",
    "metadata": {},
    "source": []
}
],
"metadata": {
    "kernelspec": {
        "display_name": "Python 3.10.0 64-bit",
        "language": "python",
        "name": "python3"
    },
    "language_info": {
        "codemirror_mode": {
            "name": "ipython",
            "version": 3
        },
        "file_extension": ".py",
        "mimetype": "text/x-python",
        "name": "python",
        "nbconvert_exporter": "python",
        "pygments_lexer": "ipython3",
        "version": "3.10.0"
    },
    "vscode": {
        "interpreter": {
            "hash":
"26de051ba29f2982a8de78e945f0abaf191376122a1563185a90213a26c5da77"
        }
    },
    "nbformat": 4,
    "nbformat_minor": 5
}

```