IN SMS 2 , LEVEL 1 DATA IS CAPTURED BY CCTV CAMERAS. IN CASTERS, SEQUENCE HEAT IS TRANSFERRED FROM LADLE TO TUNDISH. THESE DATA ARE DISPLAYED IN UI.

THE RAW DATA IS STORED IN DATABASE IN LEVEL 2. BUT AT PRESENT, LEVEL 2 IS NOT WORKING. SO, IT IS A LABOR-INTENSIVE TASK AND PRONE TO HUMAN ERRORS.

TO SOLVE THIS ISSUE, A COMPREHENSIVE AI SYSTEM IS DEVELOPED. USING OPEN-CV, CAPTURED VIDEO OF LEVEL-1 DATA IS TRANSFORMED INTO DESIRED EXCEL FORMAT. WITH THE HELP OF DIFFERENT LIBRARIES, VIDEO IS CONVERTED INTO TEXT FORMAT. FURTHER, REQUIRED DATA IS EXTRACTED AND STORED IN EXCEL SHEETS AS PER CONVENIENCE. IN FUTURE, THIS PROJECT CAN BE READILY IMPLEMENTED AS GENERIC SOLUTION TO EXTRACT REQUIRED DATA FROM VIDEO FILE.

**LIBRARIES USED:**

import os //for storing images//

import cv2 //read & write images//

import pytesseract //converting image to string//

from xlwt import Workbook //storing data into image//

import datetime //for time recognition//

**FUNCTIONS:**

cv2.VideoCapture('short test video.mp4'): To read video from specified path

sheet1 = wb.add\_sheet('Sheet 1'): To create sheet

pytesseract.pytesseract.tesseract\_cmd ='C:\\ProgramFiles\\Tesseract-OCR\\tesseract.exe : Mention the installed location of tesseract-OCR in system

txt2=pytesseract.image\_to\_string(img) : To get the string

txt1.split() : splitting the text into floats

count==50 : creating sheet after 50th row

**THE COMPLETE CODE:**

import os

import cv2

import pytesseract

from xlwt import Workbook

import datetime

*#video Capture*

vidcap = cv2.VideoCapture('short test video.mp4')

success,image = vidcap.read()

count = 1

cnt=1

txt1=""

try:

os.remove("frame.jpg")

except:

pass

wb = Workbook()

sheet1 = wb.add\_sheet('Sheet 1')

*#image to text*

while success:

cv2.imwrite("frame.jpg" , image)

success,image = vidcap.read()

pytesseract.pytesseract.tesseract\_cmd ='C:\\Program Files\\Tesseract-OCR\\tesseract.exe'

img = cv2.imread("frame.jpg", cv2.COLOR\_BGR2GRAY)

txt2=pytesseract.image\_to\_string(img)

if txt1==txt2:

continue

else:

txt1=txt2

print(txt1+" "+str(count))

data = txt1.split()

print(data)

floats = []

for elem in data:

try:

floats.append(float(elem))

except ValueError:

pass

*#Save text to xl*

print(floats)

for i in range(0,len(floats)):

sheet1.write(count,i, floats[i])

if(count==50):

wb.save('xlwt'+str(cnt)+'.xls')

count=0

cnt+=1

sheet1 = wb.add\_sheet('Sheet'+str(cnt))

count += 1

try:

os.remove("frame.jpg")

except:

pass