HandBrake - Open Source Video Transcoder

1.What is Video Transcoder?

A video transcoder is a software or tool that converts video files from one format or encoding to another. Transcoding involves changing the encoding (video and/or audio format) to make the file compatible with different devices or reduce its size without losing significant quality. Common reasons for transcoding include:

- Reducing file size for easier sharing or storage
- Converting between different formats for device compatibility
- Adjusting the video codec, resolution, or frame rate

OpenCV provides tools to read, process, and write video files.The cv::VideoWriter class is the key component for encoding and saving video data.

Syntax:

cv.VideoWriter(filename, fourcc, fps, frameSize)

Key parameters for cv::VideoWriter:

•filename: The name of the output video file.

•fourcc: A four-character code that specifies the video codec (e.g., 'XVID', 'DIVX', 'H264').

•fps: The frame rate of the output video.

•frameSize: The dimensions (width and height) of the output video frames.

2.Steps for download and install HandBrake on different operating systems:

For Linux (Ubuntu/Debian):

You can install HandBrake using **apt** (the default package manager for Ubuntu/Debian-based systems).

sudo add-apt-repository ppa:stebbins/handbrake-releases

-To install HandBrake with the GUI, run:

sudo apt-get update
sudo apt-get install handbrake

-if you would prefer the CLI (command-line interface) over the GUI, replace the last line with:

sudo apt-get install handbrake-cli

3. Task on Handbrake:

Original Video Link -
https://drive.google.com/file/d/1Pw_079qCKAmEluCU76LdlAwz8NQRKzHj/view?usp=sharing

After Perform following task for any video:

- Cropping
- Trimming
- Change Format
- Reduce size

Video link after task :
https://drive.google.com/file/d/1-WJbeyBRJC95zqv1QZ-QQEkjdFYlYjI9/view?usp=sharing

4. List out other features of Handbreak

Feature	Description
Video Format Conversion	Convert videos between formats like MP4, MKV, etc.
Presets for Devices	Pre-configured settings for devices like smartphones, tablets
Audio Codec Conversion	Convert audio between codecs such as AAC, MP3, AC3.
Batch Processing	Process multiple videos at once using a queue.
Resolution & Aspect Ratio Adjustment	Change video resolution and aspect ratio.
Subtitles Support	Add, remove, or select subtitles.
Filters	Apply filters like denoise, deinterlace, and sharpen.
Frame Rate Control	Change or adjust frame rate (FPS).
CLI Support	Automate tasks with the Command Line Interface (HandBrakeCLI).
Multiple Audio Tracks	Add and encode multiple audio tracks.