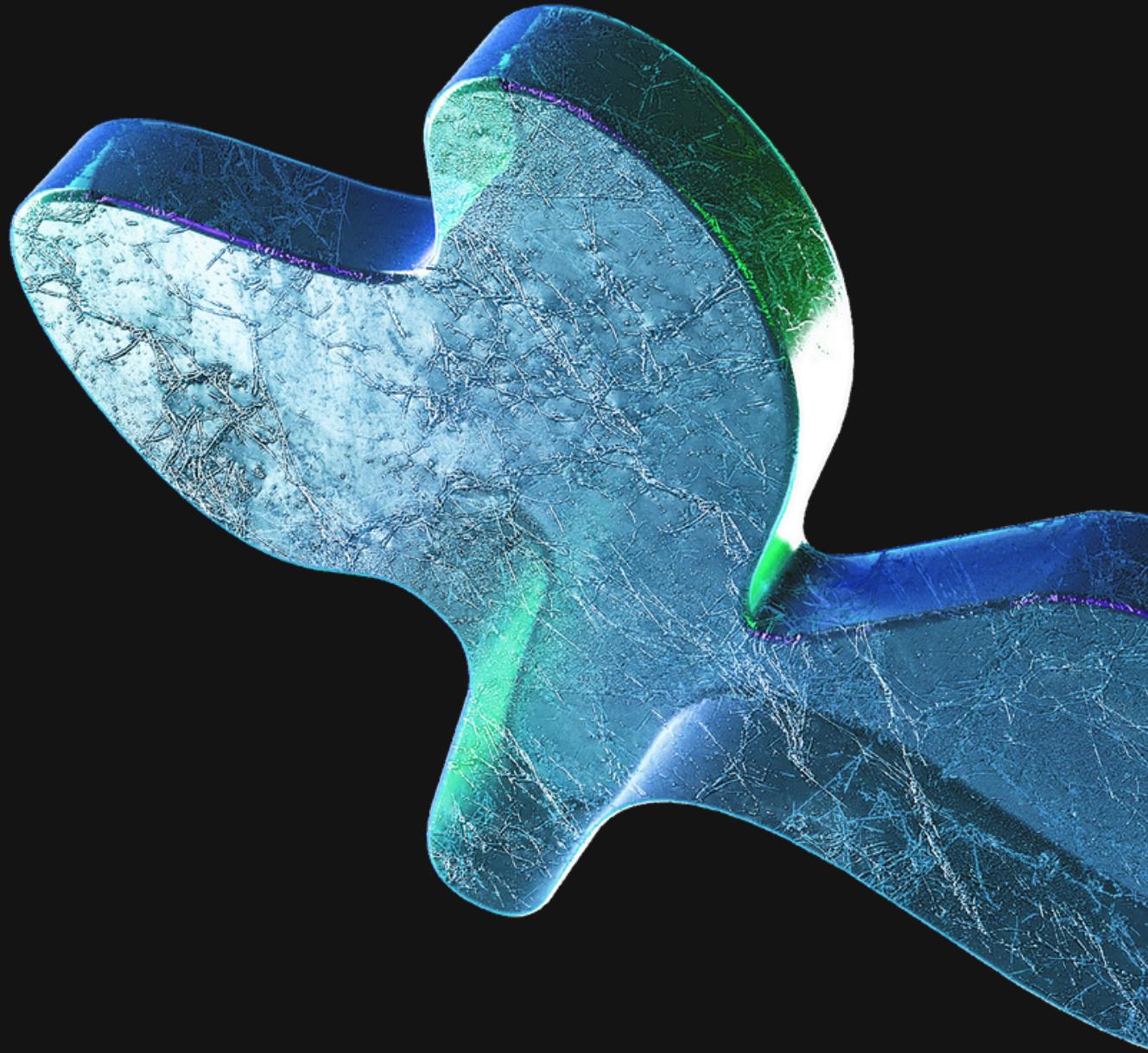
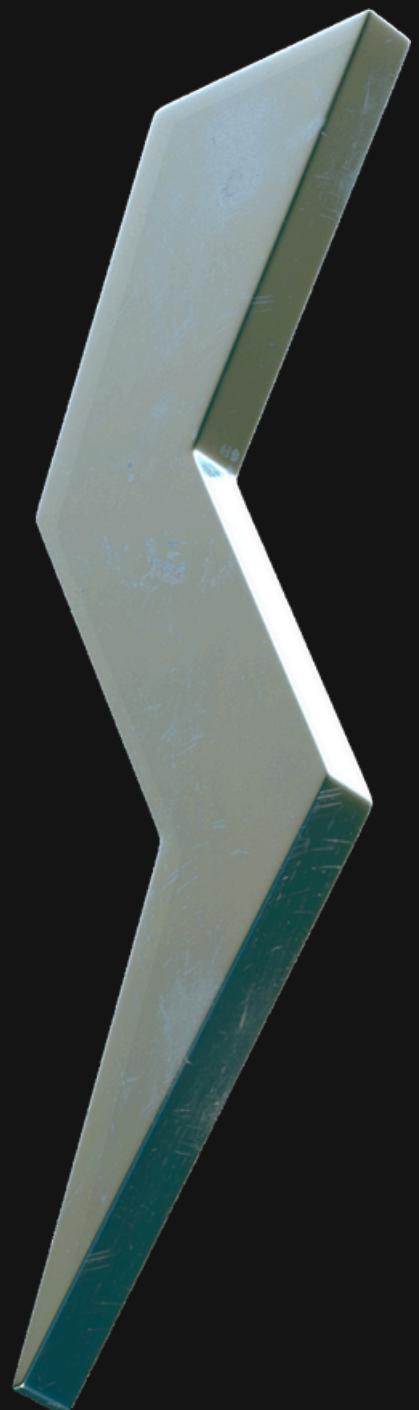


# AI-Enhanced Assistance for the Visually Challenged Individuals



# Project Agenda



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Computer Vision

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Technologies and tools used

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Workflow

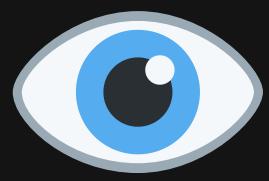
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Video Demonstration

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Future Scope

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# Computer Vision



- Image processing using AI
- Uses the device's camera for image processing



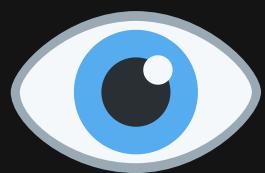
# Why Computer Vision?

Cause why not!

Even a  
human!

- Will help to detect the object in front of the cam
- Will perform object recognition (chair / dog / cat / car etc.)
- Will tell us where the object is w.r.t the camera screen
- In short, it will do the job of a human eye! ☺☺



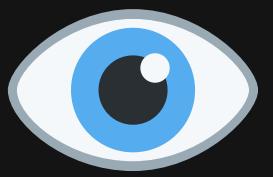


Before  
Computer  
Vision



After  
Computer  
Vision

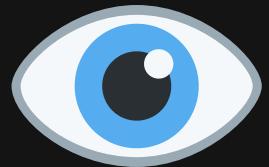
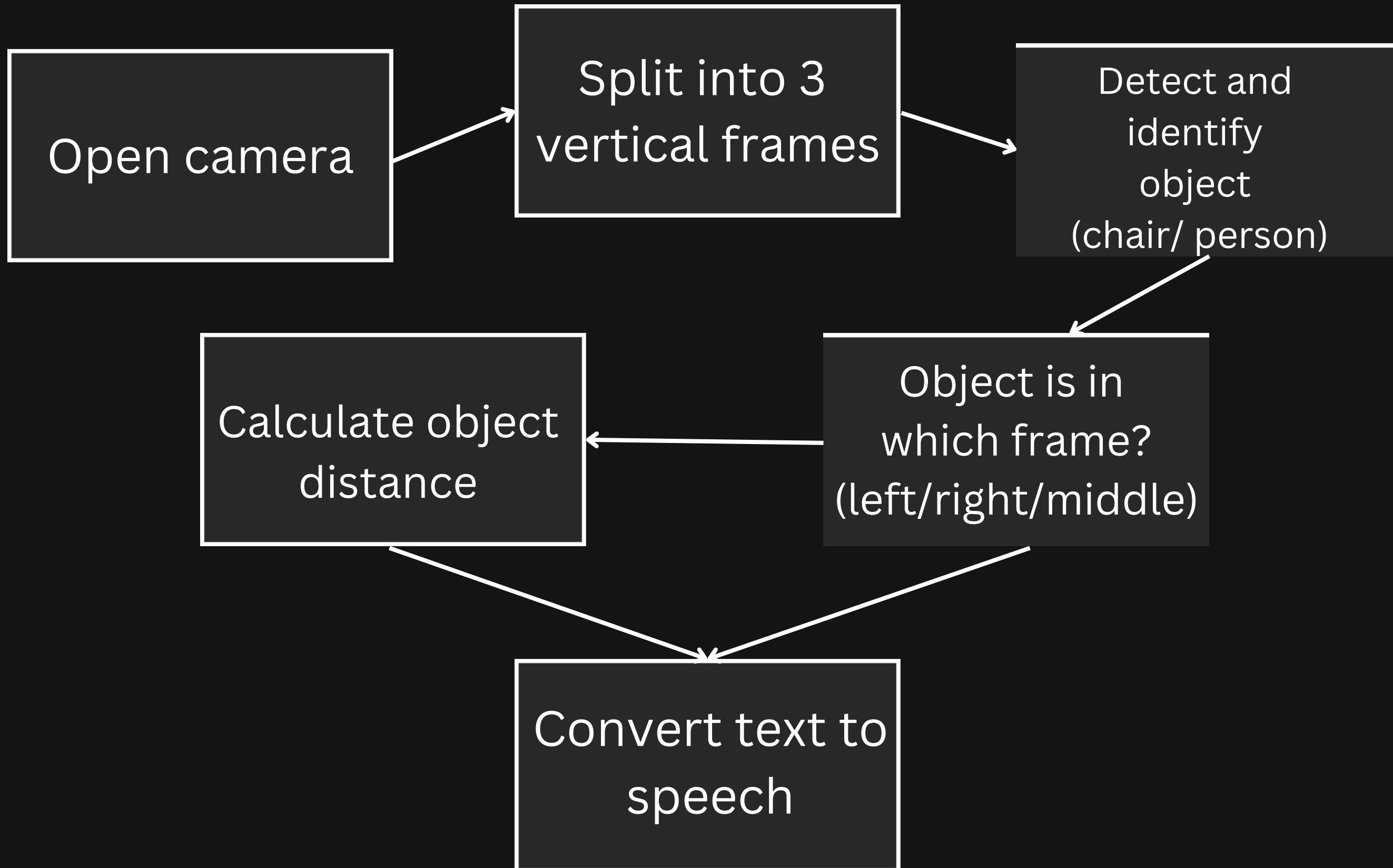




# Coming to the Technical POV

OBJECT DETECTION ALGO	TEXT TO SPEECH	FRONT END	UI IMPLEMENTATION IN FRONT END	NEURAL NETWORK
YOLO V4 (Using OpenCV)	Tacotron2 Waveglow Pyttsx3	TKINTER	PILLOW	YOLO V4 uses single neural network to identify day to day objects.

# Workflow . . .





# Demonstration

The screenshot shows a Windows desktop environment. At the top, the Bandicam software interface is open, displaying a recording window titled "1921x1008 - (0, 0), (1921, 1008)". The Bandicam toolbar includes icons for recording, game mode, HDMI, microphone, camera, and a red "REC" button. The status bar shows "00:00:00" and "0 bytes / 56.4GB". Below the toolbar is a file list for "C:\Users\KIIT\Documents\Bandicam". The list contains several video files with their sizes:

File Name	Size
bandicam 2022-08-07 15-55-20-467.mp4	49.6MB
LOOK Scheduling.mp4	8.0MB
SCAN Scheduling.mp4	22.2MB
SCAN and LOOK.mp4	22.5MB
SSTF-2.mp4	18.5MB
SSTF-1.mp4	16.1MB
FCFS.mp4	30.5MB
bandicam 2022-04-15 00-23-19-066.mp4	134.9...
DBMS-Conversion-to-3NF.mp4	23.5MB
bandicam 2022-04-05 09-41-14-360.mp4	21.2MB

Below the file list are buttons for "Play", "Edit", "Upload", and "Delete". A tooltip for the "Play" button says "How to use Bandicam ('Game Recording' mode)".

At the bottom of the screen, there is a terminal window with the following text:

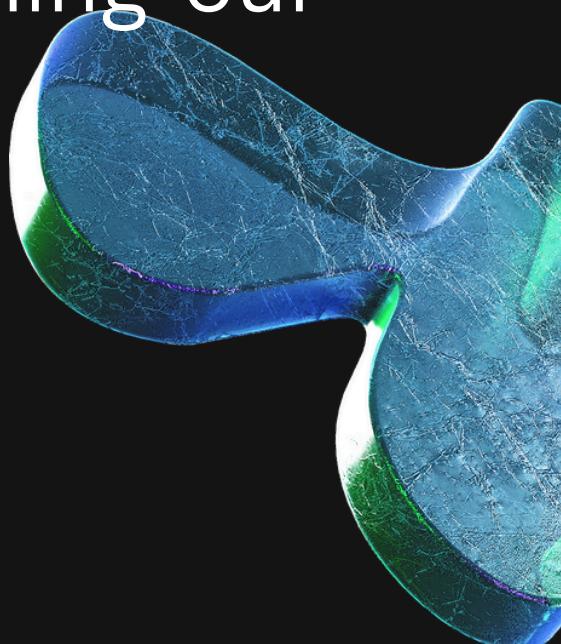
```
PS C:\Users\KIIT\MyPython\PYTHON_PROJECTS\object_detection+dist+direction+tts> [REDACTED]
Version Control Run TODO Problems Python Packages Terminal Event Log
175:28 CRLF UTF-8 4 spaces
```

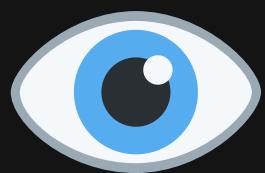
# Future Scope

This is just a prototype. It's our first attempt at creating something that can benefit the society and hence its is not the end of our project!

We further plan to integrate this project along with hardware support wherein we will add a portable camera that the user will carry and integration of the camera for realtime data processing.

Drawback: Please note that the video camera (webcam) lags while running our project because of the limited processing power of the laptop





Thank You!  
Do you have  
any questions?

