

V2 - Chroma Key Processing in Video

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Description:

This project is to implement the "green screen" method for foreground separation in videos. The purpose of this project is to extract the target object(s) from a foreground video and enable pasting them onto a different background. This project utilises chroma key processing, which involves replacing a specific colour key (typically green or blue) with a different background, resulting in a seamless integration of the foreground object(s) into the new environment.

The procedures of the program are as follows:

- 1) For every frame, it examines the similarity between the colour values and the designated colour key value, using the Vlahos Algorithm by default or other methods selected by the user.
- 2) By analysing each pixel, a mask is created using an appropriate threshold to distinguish the foreground objects.
- 3) Combine the foreground with different backgrounds.
- 4) Display the output video.

Functionalities:

- A slider for adjusting the assumed G/B ratio
- A colour wheel for setting the hue value for chroma key colour
- A selection box to select some default chrome key colour options
- A selection box to select different colour comparison methods
- A slider for adjusting the softening effect for the extracted objects
- A drop-list for some default background videos to be applied
- Two buttons for uploading videos for processing and downloading the processed output video respectively
- A video player at the centre of interface to play the uploading/processed video
- After clicking the “apply” button, the video result would be playable on the centre of interface after loading