Video Editor

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Abstract

In modern times, video-taking is a common activity especially due to the technological advancements in hand-held cellphones and the cameras embedded into them. As such, videos are one of the most common file formats a person may come across in modern times, thus editing these videos to be perfect is a common desire for all videographers. With that, the project aims to create a video editor which will allow the user to edit a video's RGB (Red Green Blue) values in order to change the color display from the video.

Introduction

In modern times, where social media is rampant, many often take videos of moments they would want to upload to these social media sites or apps. As such, many seek to edit these videos before they are uploaded to social media sites. In that, the app satisfies the needs of those that simply want to make their videos look better before uploading them.

In professional editing, the RGB values of a video are commonly tampered with in order to attain a "balanced" image. An editor will typically try to maintain similar amounts of blue, green, and red pixels in any given image or frame from a video. As such, the app allows its users to easily edit the RGB pixel values in order to attain favorable colors on the user's videos.

An image contains a massive number of pixels which all contain three variables ranging from 0 to 255 which correspond with the RGB. The app allows the user to modify these variables independently. The program will take each frame from the inputted video and modify their RGB values independently. The export button will simply collate all of the edited frames in the video.

Any modern-day mobile device is equipped with the ability to record videos in different file formats. This app, however, only accepts the *mp4* or *mkv* file formats. This limitation is due to how other file formats handle RGB colors in their videos.

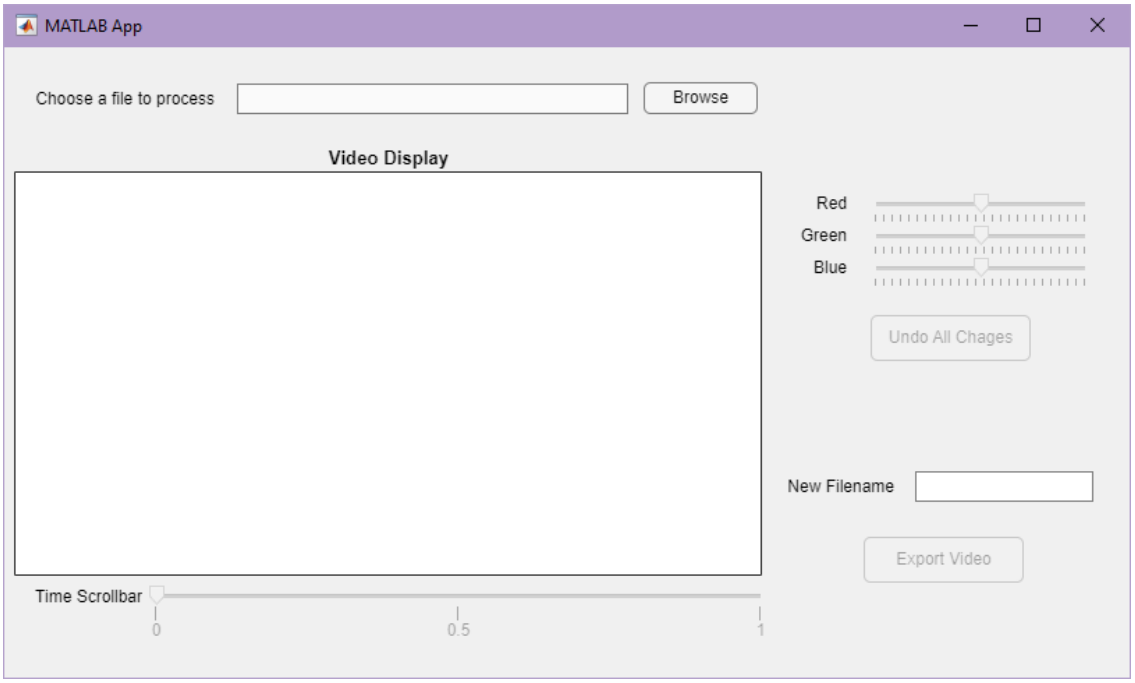
Functionalities

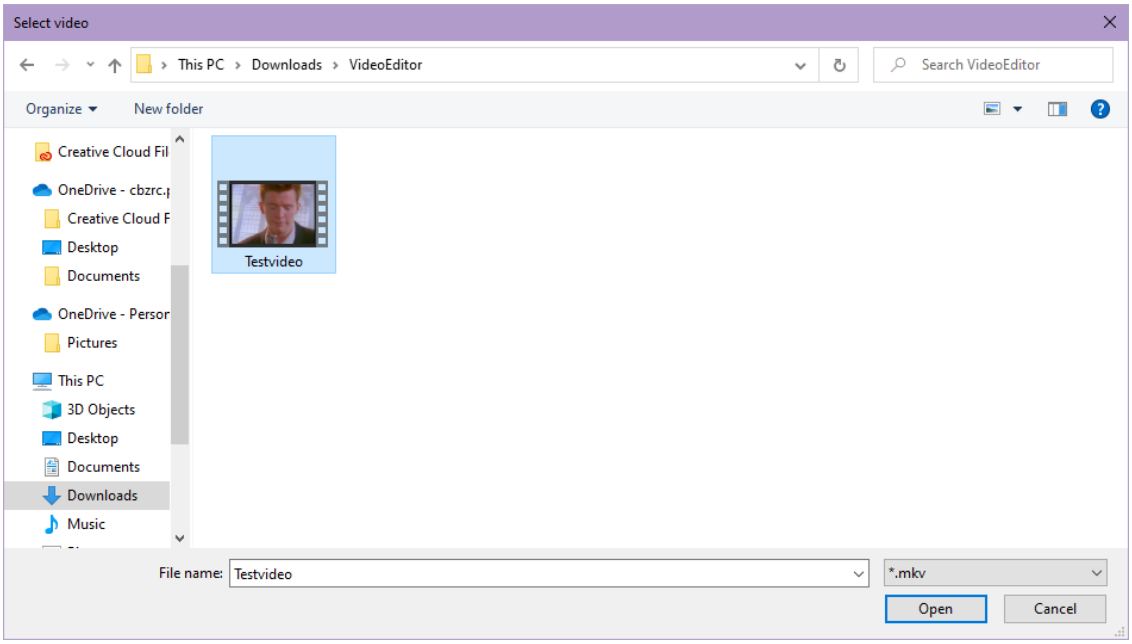
TABLE I. Functionalities Table

Functionality Name	Description	Benefit
Browse Button	Allows the user to browse their file folder to select a file.	The whole filename need not be typed by the user.
Video Display	Allows the user to see a certain frame being edited in the video.	The user is able to see how the image is affected by the edits.
Time Scrollbar	Allows the user to scrub the video for a certain time or certain frame from the video.	The user will be able to find a certain frame in the video instead of seeing only one frame from the whole video.
Red Scrollbar	Allows the user to increase or decrease the intensity of red pixels in the frame.	The user will be able to adjust the colors in the image to their requirements.
Green Scrollbar	Allows the user to increase or decrease the intensity of green pixels in the frame.	
Blue Scrollbar	Allows the user to increase or decrease the intensity of blue pixels in the frame.	
Undo All Changes Button	Sets all the values of the Red, Green, and Blue Scrollbars back to their default value of 0 effectively undoing all changes made to the image.	The user is given this option to start from scratch.
New Filename	Allows the user to set the name of the new file for exporting.	Allows the user access to exporting the video with the changes made.
Export Button	Exports the video with the changes made to its RGB.	Allows the user to export the video as a video file format for viewing outside of the app.

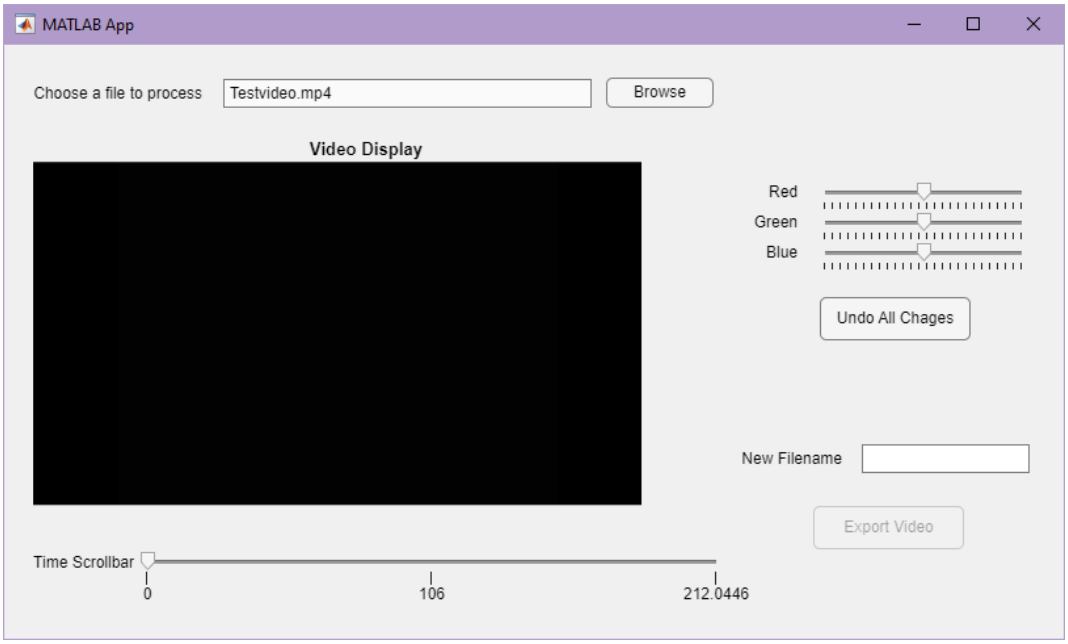
Walkthrough

The first step to using the application is picking a video file to edit. This may be done by clicking the “Browse” button. Upon clicking the button, the program will open the system os’s respective file explorer and allow the user to pick a file from their system.

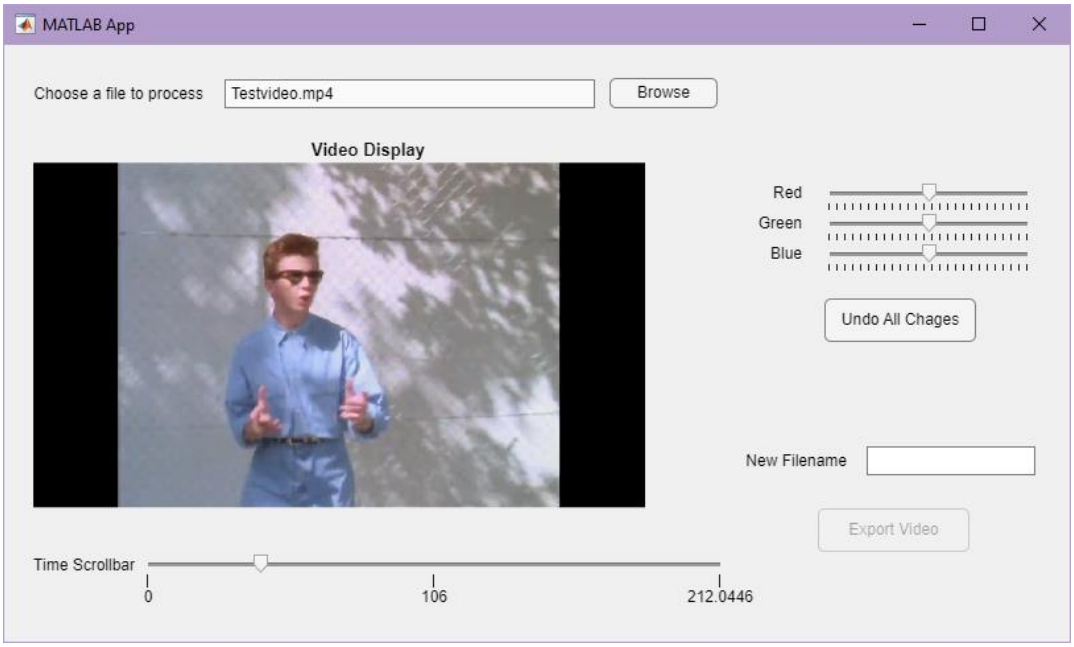




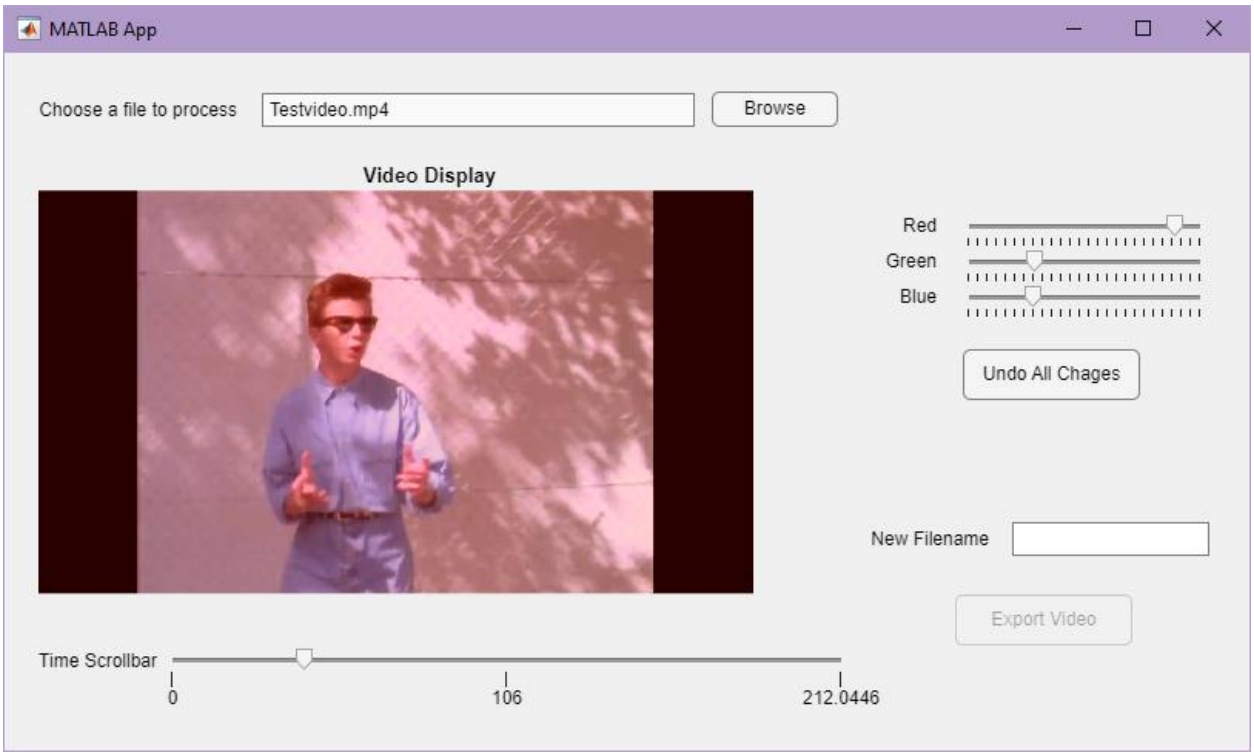
Once the user has chosen a file, the application will then process this video and enable most of the functionalities of the application.



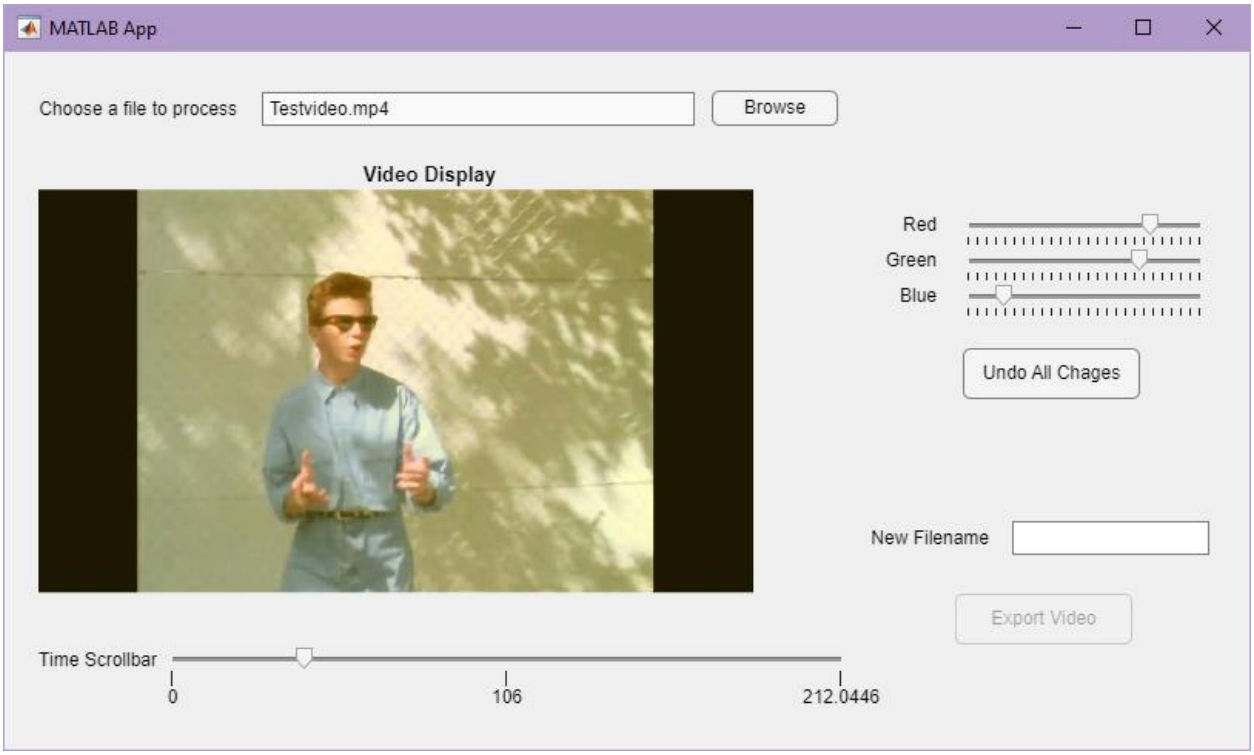
Firstly, the user may choose to scrub through the video to find a certain frame or image they would like to see on the Video Display. They may do this by scrolling through the “Time Scrollbar” slider.



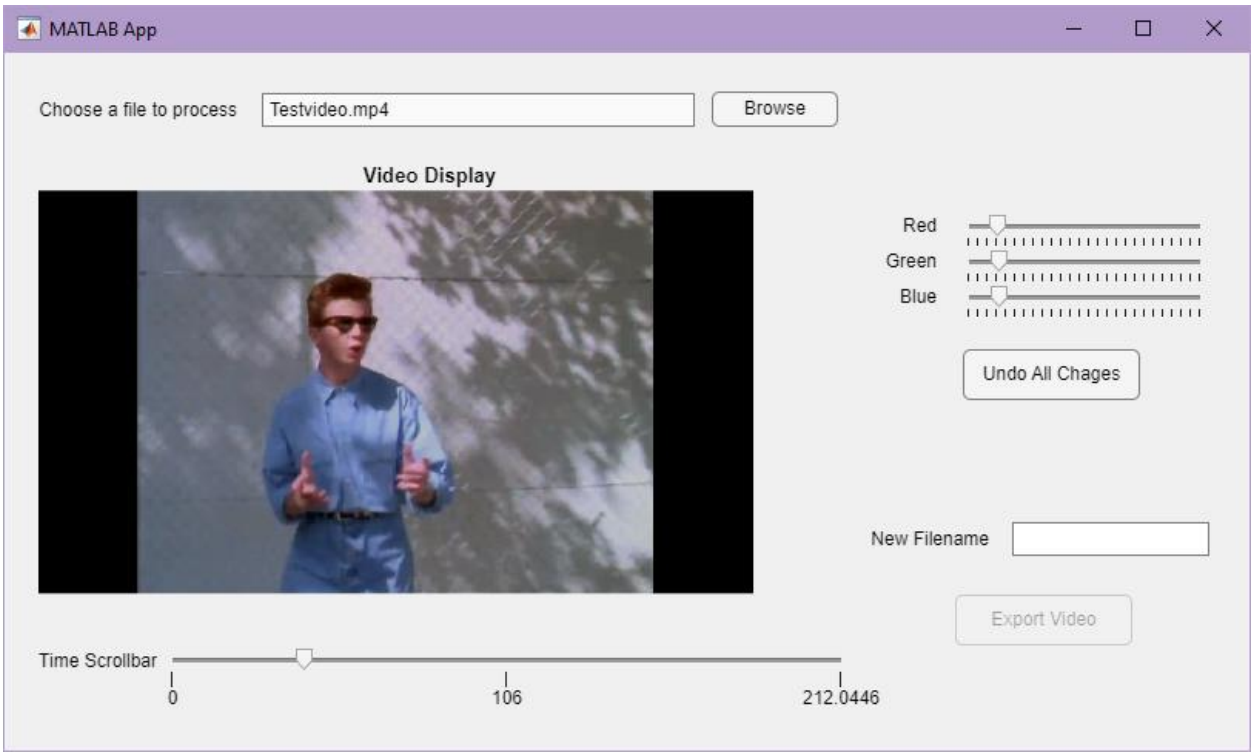
Next, the user may now edit the RGB values of the video which will be reflected by the Video Display. For example, the user may choose to lessen the intensity of the green and blue pixels while increasing the red pixels.



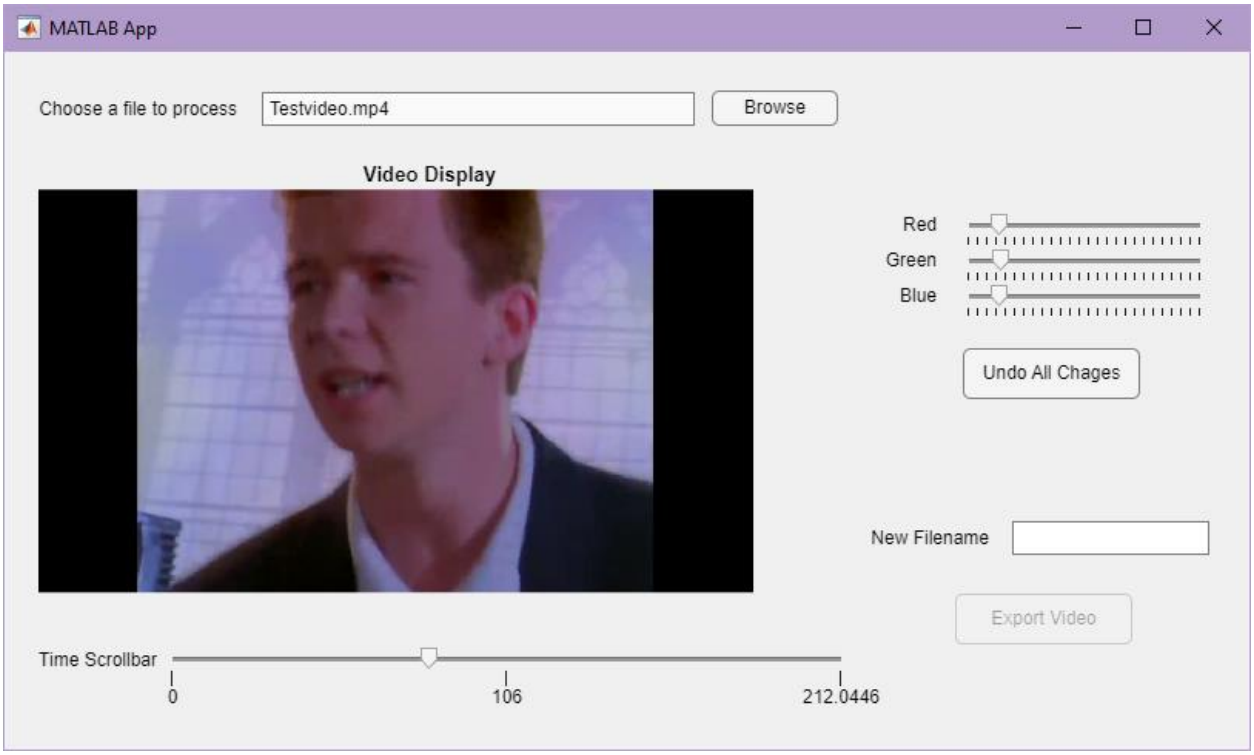
The user may also want to only see the red and green pixels, while keeping blue pixels low.



Or the user may want to simply darken the image. This can be done by lowering the intensity of all red, green, and blue pixels.



Another user may want to see a different frame but with similar settings.



Once the user is happy with the settings, they may choose to export it. In order to export the video, the user must first give the file a filename by typing in a file name under the “New Filename” text box. Only then will the export button be enabled. To export, then click on the “Export Video” button. It will then create a file under the default directory. Note that the user must also type the file format in which to export. A correct example would be “redFile.avi” while “redFile” is not.