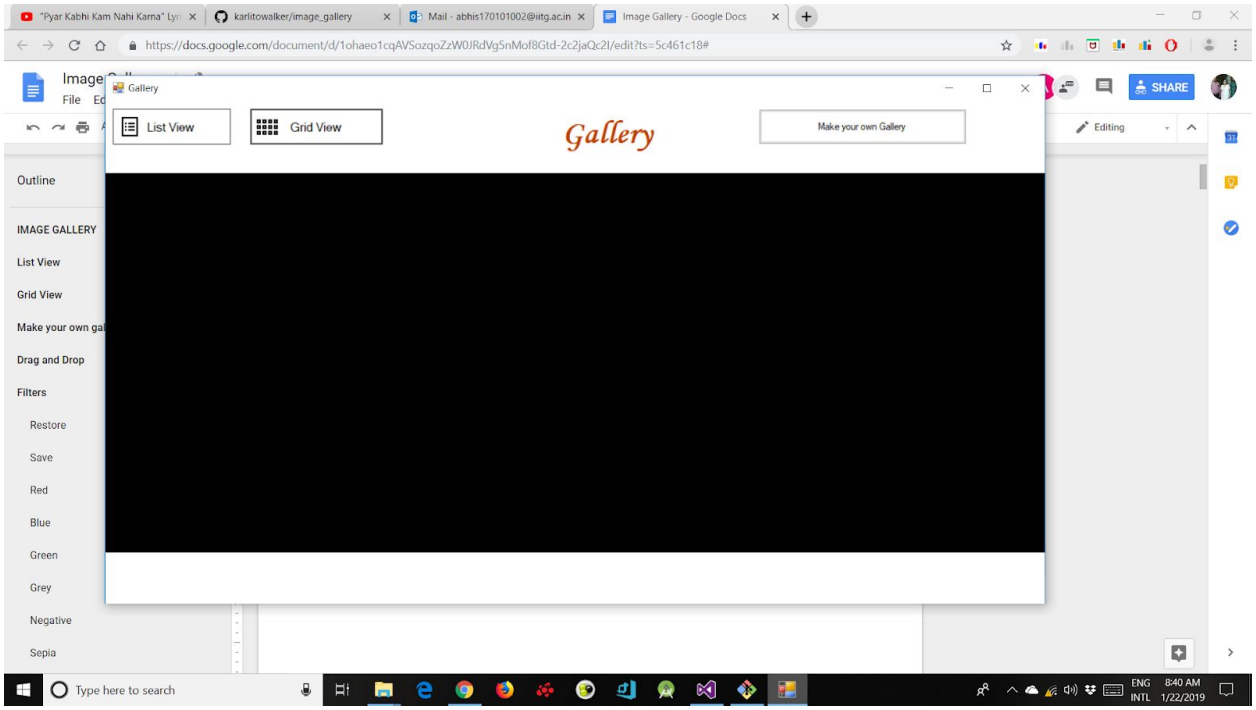
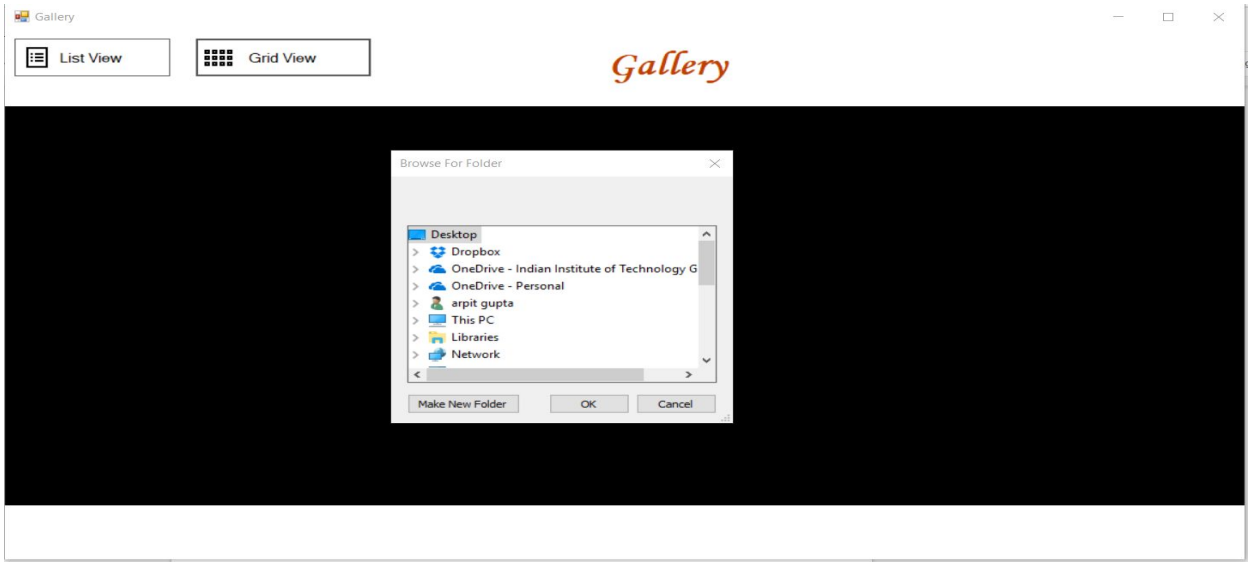
IMAGE GALLERY

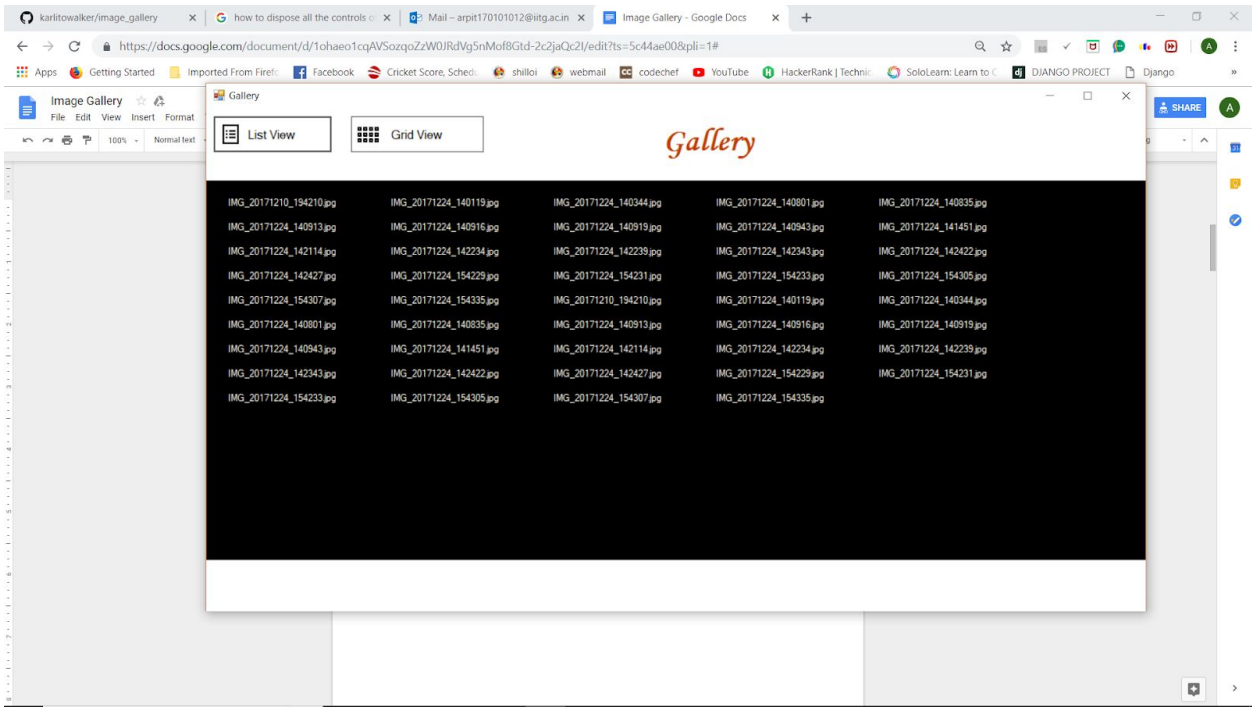
Image gallery is a way of displaying the different images that are saved by the user at a specific location.



Clicking one of the buttons would pop a browse window and ask for a directory to select pictures from which we have to show in the gallery.

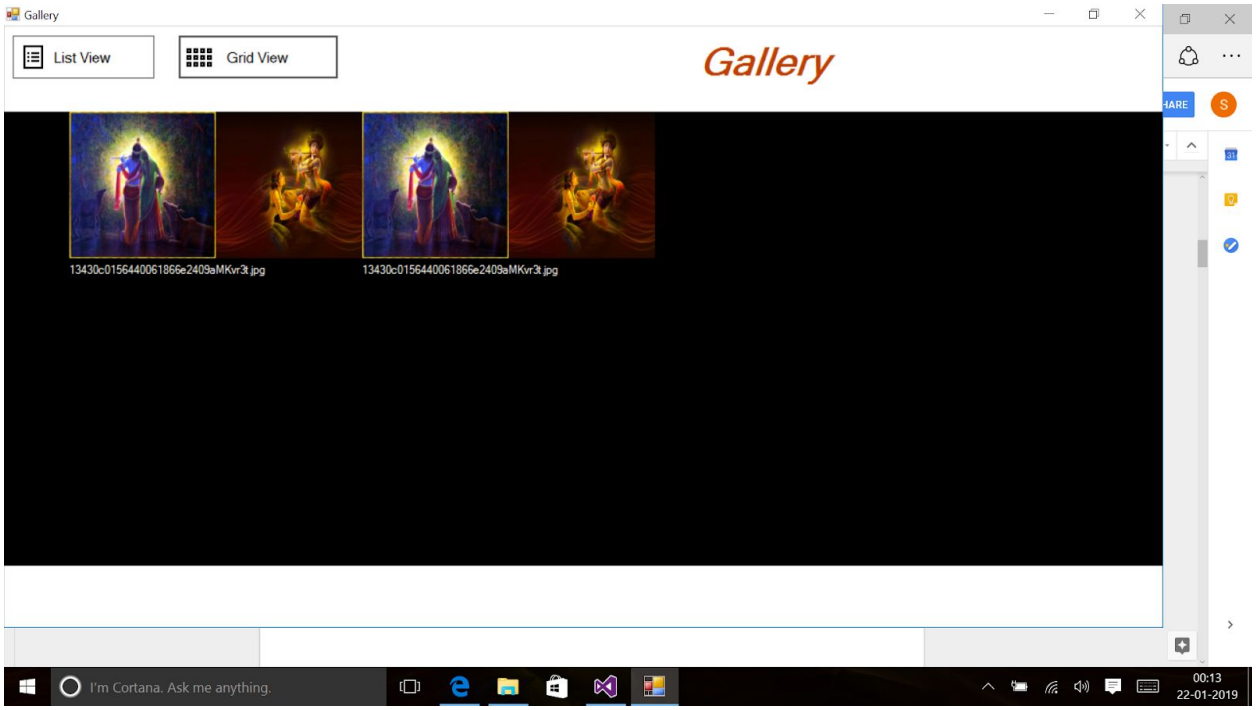


List View



List view enables the user to select the folder containing the images of the type jpg, jpeg, png, bmp, tif, tiff, gif, JPG, JPEG 2000, GIF, BMP, BPG, BAT, HEIF, WebP, Exif, Tiff.
If the folder does not contain any images then “No image can be found” will be displayed on the screen. If the images are present of the allowed types then the image names will be listed. The image can be viewed when clicked on the respective image name and even filters can be applied on the image. If the system goes out of memory then the images will not be loaded and the message will be displayed on the screen.

Grid View

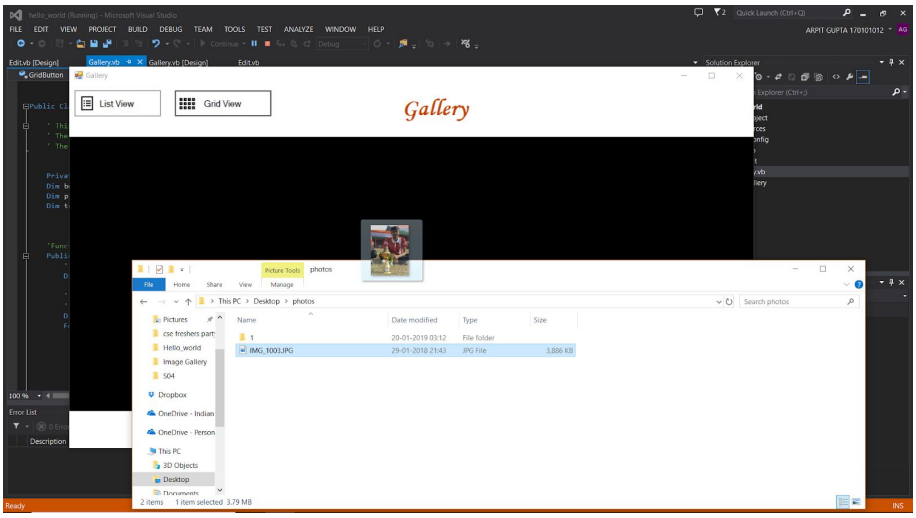


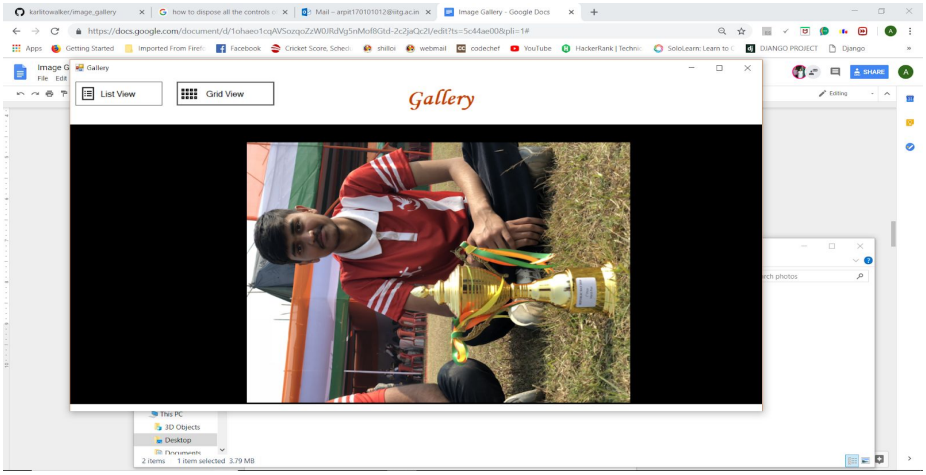
Grid View enables the user to display all the images in the folder in grid form. Only the images of the type jpg, jpeg, png, bmp, tif, tiff, gif, JPG, JPEG 2000, GIF, BMP, BPG, BAT, HEIF, WebP, Exif, Tiff can be displayed.If the folder does not contain any images then “No image can be found” will be displayed on the screen. If the system runs out of memory then the images will not be loaded instead a cross sign is kept in its thumbnail.One of the images can be selected and then filters can be applied to the image.

Make your own gallery

Make your own gallery enables the user to select the image and to apply the filters to that image.After applying the filters the image can be saved in any folder.

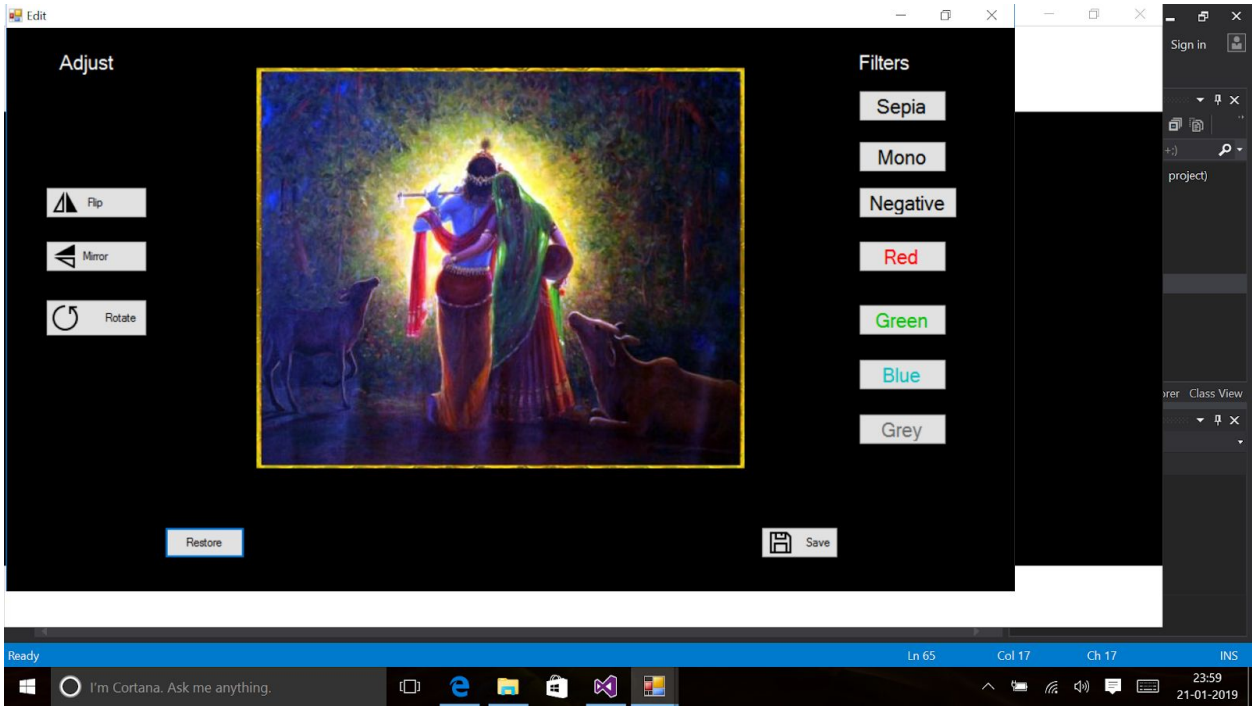
Drag and Drop

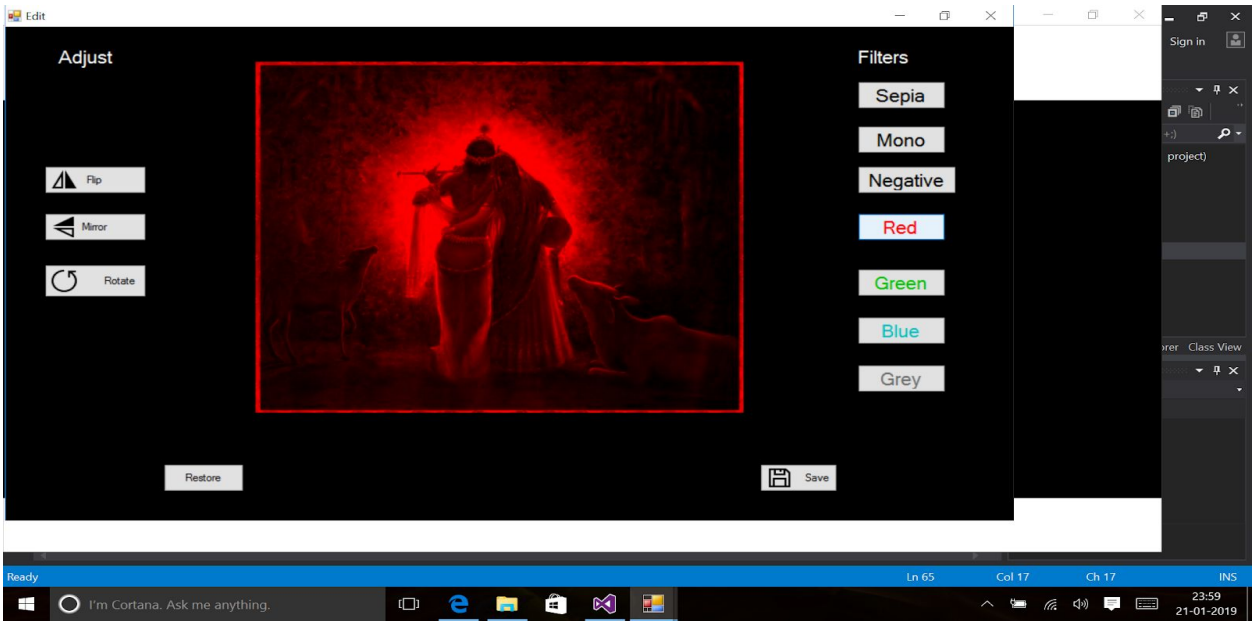




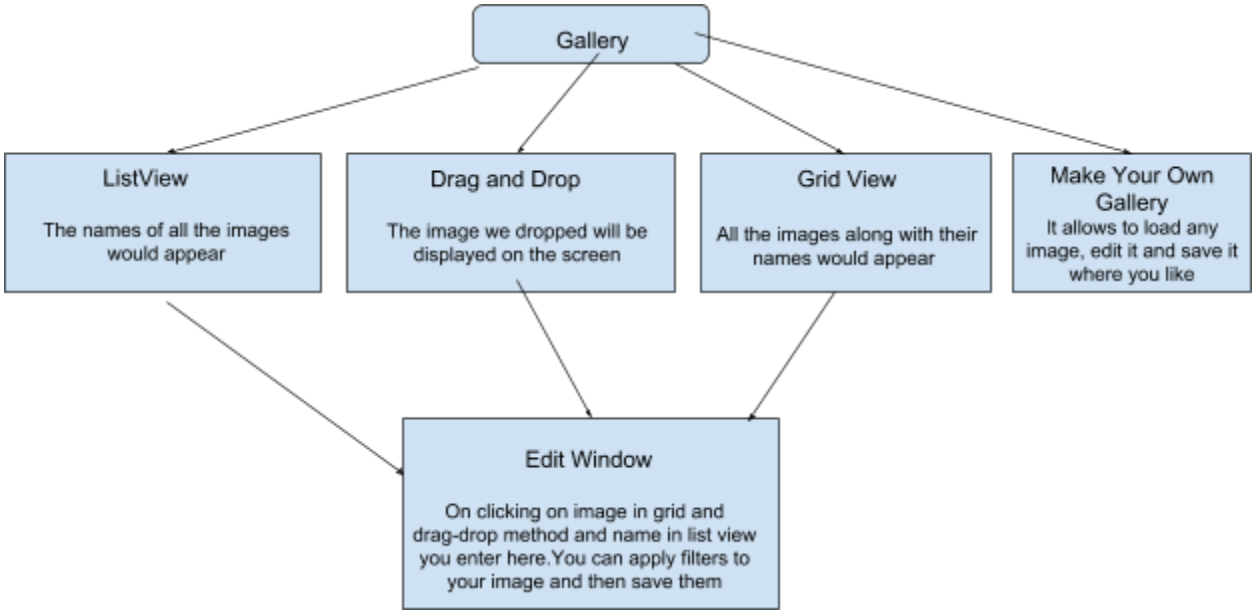
Drag an image from any folder and drop it in the Picture box then the image will be displayed on the screen.If we click on the image then we can apply the filters to the image.If we drop anything other than image then a cross mark will be displayed on the screen.

Filters





Before and After applying the red filter to the image



The Image Gallery has multiple components. And the components are described in detail as follows.

Load Image

To display the picture on the screen and to apply filters, load image can be clicked.

Restore

To restore the original image by deleting the changes made to it Restore button can be clicked.

Save

Save button will enable us to save the image in which we have applied effects. The code sets up the file filter for the SaveFileDialog control, which as a result will only save the image in a Bitmap, JPEG, GIF image file.

Red

We know that the colour displayed by each pixel is the result of combining three primary colours (red, green and blue), each of which can have an intensity of between 0 and 255. We can manipulate these RGB values individually for every pixel in an image. By clicking on the Red

button, the blue and green components of the pixel are turned off and the image will be displayed with only red component.

Blue

By clicking on the Blue button, the red and green components of the pixel are turned off and the image will be displayed with only blue component.

Green

By clicking on the Green button,the red and blue components of the pixel are turned off and the image will be displayed with only green component.

Grey

When we click on the Grey button, all the colour values are extracted and their average value is calculated. The value thus obtained is then used to create a new colour that is a shade of grey (by assigning the same value to each of the R, G and B components) and then writing that new colour back to the corresponding pixels in the image. The image after this changes will be displayed.

Negative

When we click on the Negative button, all the colour values are extracted and are subtracted from 255. The values thus obtained is then used to create a new colour(by assigning the corresponding values to each of the R, G and B components) and then writing that new colour back to the corresponding pixels in the image. The corresponding image after this changes will be displayed.

Sepia

When we click on the Sepia button, all the colour values are extracted. The values of each of the red, green and blue components are adjusted in such a way that red and green components have relatively more value when compared to blue component. The new colour is written back to the corresponding pixels in the image. The corresponding image after this changes will be displayed.

Mono

Mono button produces a genuinely black and white image in the sense that the resulting images only has black and white pixels. The code is very similar to the greyscale code except that this time, if the average of the colour component values equates to less than 64 the pixel is set to black; otherwise it is set to white.

Mirror

Mirror button creates a mirror image of the image loaded into the display area. The procedure loops through the pixels column by column, it swaps the colours in the pixels in the left and right halves of the screen, starting from the outside edges and working towards the centre until all of the pixels have had their colours swapped.

Flip

Flip button creates a inverted image of the image loaded into the display area. The procedure loops through the pixels row by row, it swaps the colours in the pixels in the top and bottom halves of the screen, starting from the outside edges and working towards the centre until all of the pixels have had their colours swapped.

Exit

Exit button closes the application.

Bugs

1. Can not load more than 30 images in grid view showing, OutOfMemoryException.
2. Save button in edit window is presently not working showing, InvalidCastException.
3. While scrolling images in grid view glitches appear..

Contribution

1. Arpit Gupta

Roll No. 170101012 Email: arpit170101012@iitg.ac.in

1.1 I made the function for getting files from the folder the user selects.
1.2 I also made the function as to how the images would appear in grid view. Here picture boxes were made dynamically depending on the number of images in the folder.
1.3 On clicking the image you would be directed to a new window where you can edit the image and preview your changes.
1.4 Added method setPictureBox in Edit form where image, transferred from gallery window is resized in 4:3 ratio and then added to the picture box.
1.5 I added the drag and drop method, where you can drop any image on the gallery form and it will be viewed in full screen. If you select any other file in place of an image it will appear as a cross.

2. Sahithya Vemuri

Roll No. 170101077 Email: sahit170101077@iitg.ac.in

1.1 I have called the function to load an image from the folder to apply filters to the image.
1.2 I have written the functions for the filters red, blue, green, sepia, mono and grey.
1.3 I have written the functions to apply more filters like negative, flip, rotate and mirror.
1.4 I have also written the functions to save the image after applying the filters and also to restore the original image and to exit the application.
1.5 Made the documentation.

3. Abhishek Jaiswal

Roll No. 170101002 Email: abhis170101002@iitg.ac.in

1.1 I have built the list view of this project.
1.2 I have made a browser dialog to select the directory from which user want to see images in our gallery app.

1.3 I have collected all the images in an array of images from the directory.
1.4 I have rendered number of textboxes same as number of images, and showed name of all images in that.
1.5 I have integrated the code of making own gallery and rest and removed the errors occurred within.