

# Technical Disclosure Commons

---

Defensive Publications Series

---

May 2023

## Automatically Darken Images to Fit Dark Mode in Mobile Device

Liy Opor

Follow this and additional works at: [https://www.tdcommons.org/dpubs\\_series](https://www.tdcommons.org/dpubs_series)

---

### Recommended Citation

Opor, Liy, "Automatically Darken Images to Fit Dark Mode in Mobile Device", Technical Disclosure Commons, (May 05, 2023)

[https://www.tdcommons.org/dpubs\\_series/5867](https://www.tdcommons.org/dpubs_series/5867)



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.

## **Automatically Darken Images to Fit Dark Mode in Mobile Device**

If the user uses any application (e.g., browser application or messaging application) and changes the mobile device to dark/night mode, the application interface may be darkened too, as prescribed by the Android/iOS internal protocols. However, once the user receives a light color image that is not a part of the application interface (e.g., on a new page in the browser or in a new message), this image might be much brighter than the interface of the application. In such circumstances, the user would feel uncomfortable because he may be blinded by a bright image in the dark.

Before presenting a new image in dark mode, the application may calculate the image's average color for the whole image. Then the application may calculate the luminance value of the average color. If the luminance value is higher than 0.4, it shall put a grey translucent layer above the image to darken the image.

In a particular example, the proposed idea may be realized by the following set of steps:

1. User receives an image in an application in a smartphone which is in dark mode.
2. Before displaying the image, the application calculates the average color of this image.
3. The application gets RGB value. The application calculates luminance value  $L = 0.299 * R + 0.587 * G + 0.114 * B$ .
4. If the luminance value  $L$  is higher than 0.4, the application overlays a grey translucent layer above the image.
5. The application may also provide an option for displaying the original image without the grey translucent layer.