How to convert the Mat object to a Bitmap while perserving the color?

Asked 3 years, 5 months ago   Active 3 years, 5 months ago   Viewed 2k times

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In the App I am developing I open the Camera using `OpenCV4Android` using `CameraBridgeViewBase.CvCameraViewListener2` and when I touch the screen I set that frame as an image inside an `ImageView` as shown below in the code. the problem is the image set to the `imageview` is always of different color than the preview on the camera as shown in the picture. I believe that this issue has something to do with the conversion I made which is stated in the code below
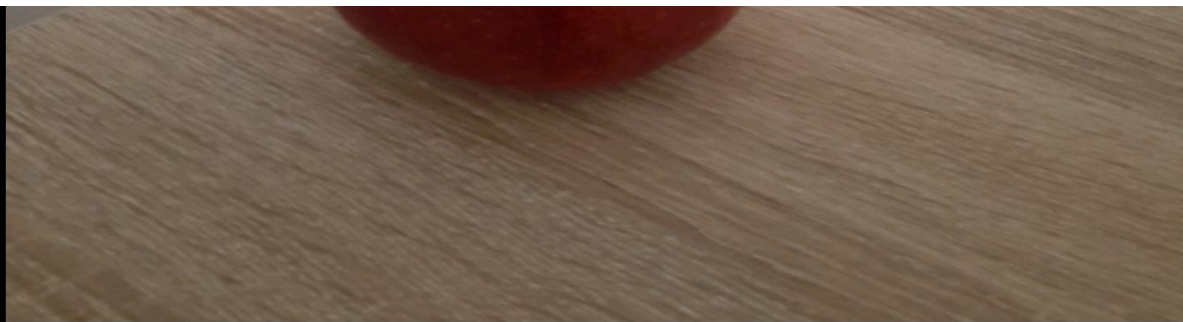
My question is how to convert the Mat object to a `Bitmap` preserving the same color?

pic
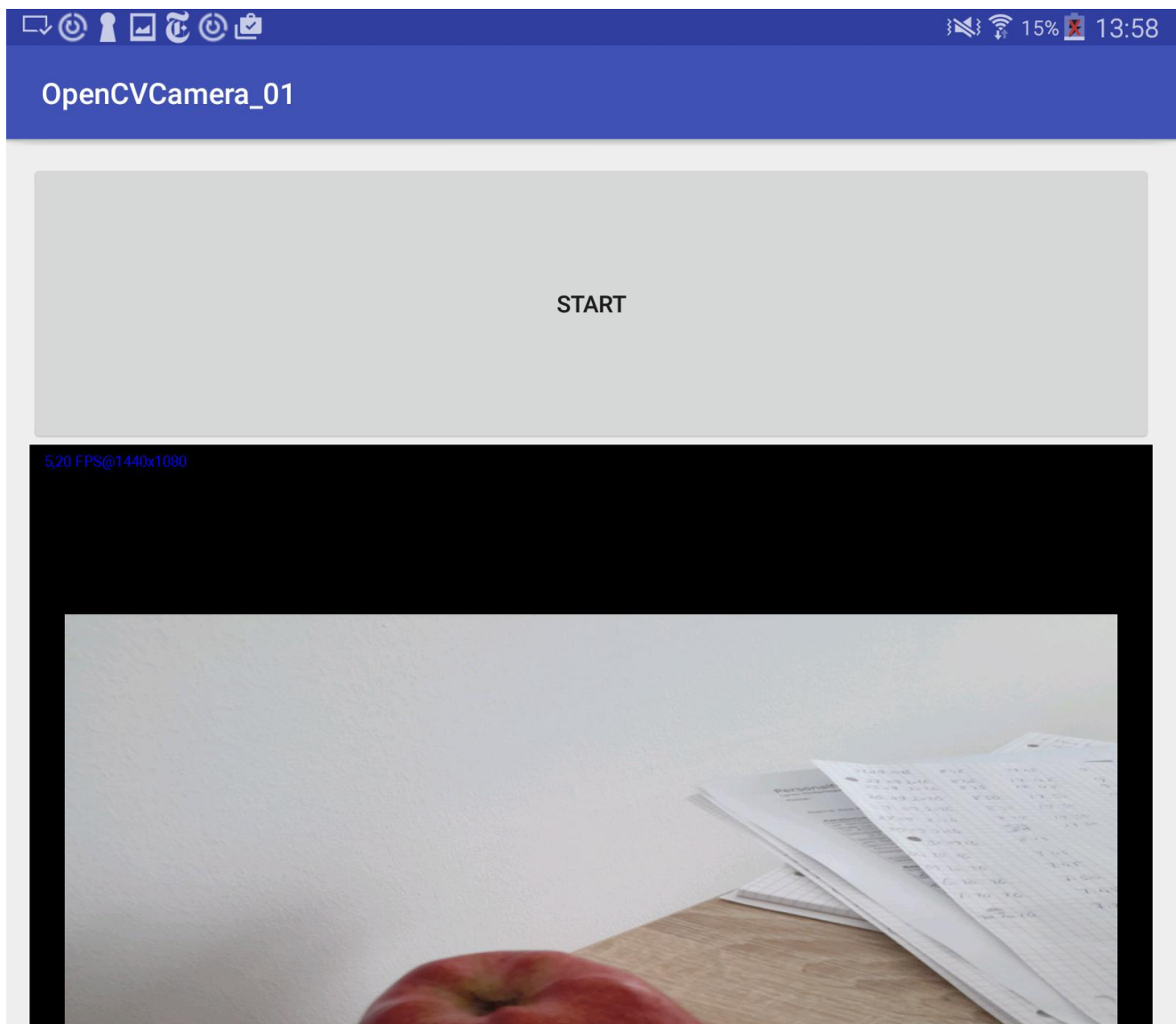
code:

```java
@Override
public Mat onCameraFrame(CameraBridgeViewBase.CvCameraViewFrame inputFrame) {
    Log.w(TAG, "onCameraFrame");
    if (mRGBT != null) {
        mRGBT.release();
    }

    mRGBT = inputFrame.rgba().t();
    Core.flip(mRGBT, mRGBT, 1);
    Imgproc.resize(mRGBT, mRGBT, inputFrame.rgba().size());

    if (touched) {
        touched = false;
        Imgproc.cvtColor(mRGBT, mRGBT, CvType.CV_8U);
        final Bitmap bitmap = Bitmap.createBitmap(mRGBT.cols(), mRGBT.rows(),
Bitmap.Config.RGB_565);
        Utils.matToBitmap(mRGBT, bitmap);

        getActivity().runOnUiThread(new Runnable() {
            @Override
            public void run() {
                mIV.setImageBitmap(bitmap);
            }
        });
    }

    return mRGBT;
}
```

android   opencv   bitmap   android-bitmap   opencv3.1

edited Oct 10 '16 at 12:13   asked Oct 10 '16 at 12:08

OpenCV works with BGR images. You convert the frame to RGB. – Dan Mašek Oct 10 '16 at 12:14

As Dan has stated the colour order is incorrect your Red and Blue channels are in a different order –
EdChum - Reinstate Monica Oct 10 '16 at 12:15

@DanMašek do u mean this line: Bitmap.createBitmap(mRGBT.cols(), mRGBT.rows(), Bitmap.Config.RGB_565);..if that is
what you mean, there is no option for BGR!! – user2121 Oct 10 '16 at 12:16

2 Answers

¿No encuentras la respuesta? Pregunta en Stack Overflow en español.   ✕

You are converting the image incorrectly.

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If you want the bitmap to be a color image, you don't need the `cvtColor` . `inputFrame.rgba()` returns a RGBA
Mat and that is the input you need for `Utils.matToBitmap` (See JavaDoc).

```
if (touched) {
    touched = false;
    final Bitmap bitmap =
            Bitmap.createBitmap(mRGBT.cols(), mRGBT.rows(),
 Bitmap.Config.RGB_565);
    Utils.matToBitmap(mRGBT, bitmap);
    runOnUiThread(new Runnable() {
        @Override
        public void run() {
            mIV.setImageBitmap(bitmap);
        }
    });
}
```

If you want the bitmap to be a gray image use `Imgproc.COLOR_BGRA2GRAY` :

```
if (touched) {
    touched = false;
    Imgproc.cvtColor(mRGBT, mRGBT, Imgproc.COLOR_BGRA2GRAY);
    final Bitmap bitmap =
            Bitmap.createBitmap(mRGBT.cols(), mRGBT.rows(),
 Bitmap.Config.RGB_565);
    Utils.matToBitmap(mRGBT, bitmap);
    runOnUiThread(new Runnable() {
        @Override
        public void run() {
            mIV.setImageBitmap(bitmap);
        }
    });
}
```

If you need to work with bitmaps `Bitmap.Config.ARGB_8888` add `true` as a third parameter in
`Utils.matToBitmap` , so the Mat is converted to alpha premultiplied format (See JavaDoc).

```
final Bitmap bitmap =
        Bitmap.createBitmap(mRGBT.cols(), mRGBT.rows(), Bitmap.Config.ARGB_8888);
Utils.matToBitmap(mRGBT, bitmap, true);
```

I am using this and it works fine:

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```
Mat mat = inputFrame.rgba();
Bitmap bm = Bitmap.createBitmap(mat.cols(), mat.rows(), Bitmap.Config.ARGB_8888);
Utils.matToBitmap(mat, bm);
```

answered Oct 10 '16 at 12:26

Roman Samoylenko
644   7   21

actually i have the same problem when i use Bitmap.Config.ARGB_8888 –   user2121   Oct 10 '16 at 12:34

@user2121 Try to remove the previous code step by step and find out what's the problem – Roman Samoylenko Oct 10 '16 at 12:35 ✎

what should i do to reverse this i mean bitmap to inputframes – Innocent Oct 19 '18 at 11:46