Faculty of Engineering

Ain Shams University

4th Mechatronics Department

Digital Image Processing Project

Submission (1)

Project proposal

Resistance Color Code Detection and value calculation

BY

X-OHM

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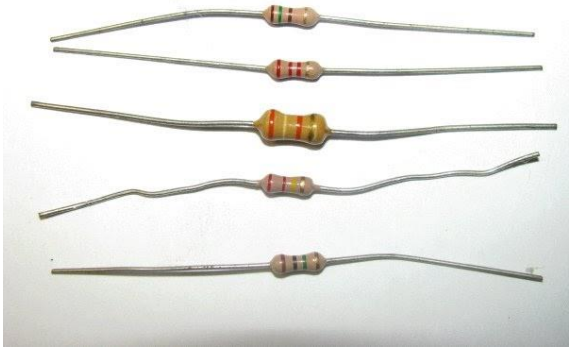
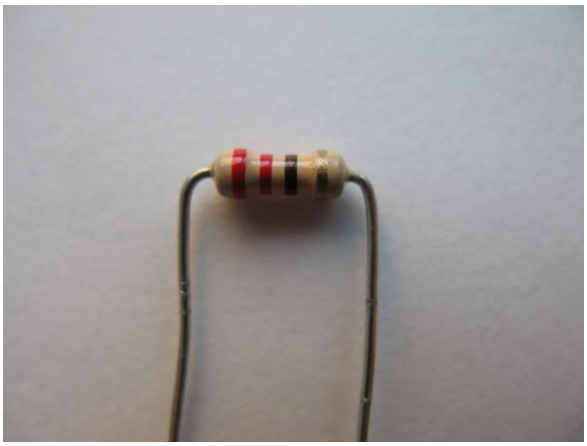
1. Project Description:

The project idea came from the difficulty of calculating the value for a resistor just by looking to it, even more impossible if a required value was needed from a bag full of thrown resistors.

So, the idea is about using a camera to calculate the value of this resistor, so it becomes easy to get the required resistor by only passing the camera over these resistors, and the value will be displayed for the user.

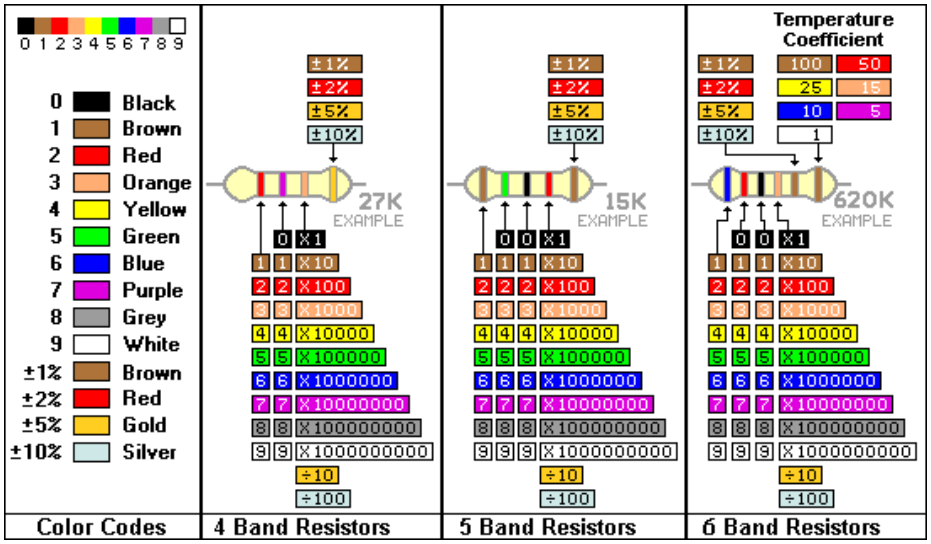
2. Input samples





3. Project Procedures Planning:

- Capturing Image.
- Reduce noise and non-needed information
- Detect resistor body to avoid inferring with any colors in photo
- Detect resistor type (4-band,5-band)
- Detect the colors shown on the resistor
- Apply calculation based on resistor color code standards.
- Display final result.



4. Project planning:

- Using image processing Algorithms in MATLAB or using Python libraries to work in input samples.
- Try converting it into mobile android-based application.