



DESIGN AND IMPLEMENTATION OF AUTOMATIC COLOR SHADING MACHINE

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ABSTRACT

This paper investigates for shading of colors. In paint shop, we desire that we can choose a color shade of our choice so this technique is used for generating color shade with the help of microcontroller. This concept of color shading is available in market but they are made by mechanical machine. This research work uses electronics components and microcontroller at present, there are automatic colour shades available in market but they are not prepared with the help of electronics system using microcontroller. The present system preparing colour shades can be further modified by the use of microcontroller. So it can be easily use for domestic purpose it can be used highly in color shops and we can also increase the number of color.

Keywords: component; microcontroller; shading.

I. INTRODUCTION

This research work involves the study of microcontroller. At present there are automatic colour shades available in market but they are not prepared with the help of electronics system using microcontroller. The present system preparing colour shades can be further modified by the use of microcontroller.

In this research work, we intent to use 6 basic colours and various colour shades can be prepared by using microcontroller. This various colours can be prepared with accuracy by using various proportions automatically and as such manual error can be avoided. Further various new and attractive, innovative colours can be prepared.

Now a days colour are gaining industrial such as automobile, domestic appliances, textile industry also colour scheme to multistoried buildings thus there is a wide scope as far as utility of the project is concerned. Our main objective is to prepare automatic, innovative colour shade with at most accuracy and simplicity.



Fig 1: Basic Block Diagram

II. RESEARCH METHODOLOGY

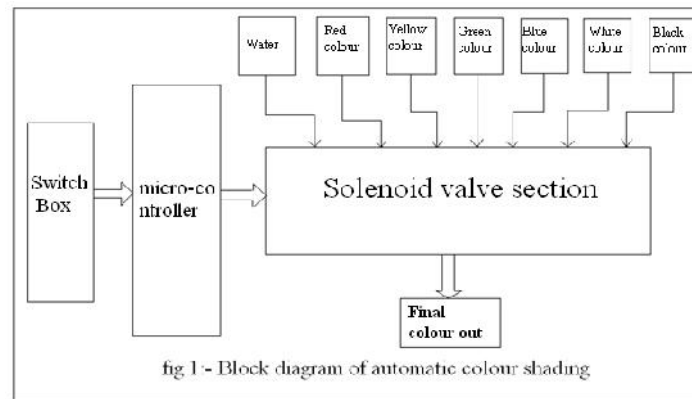
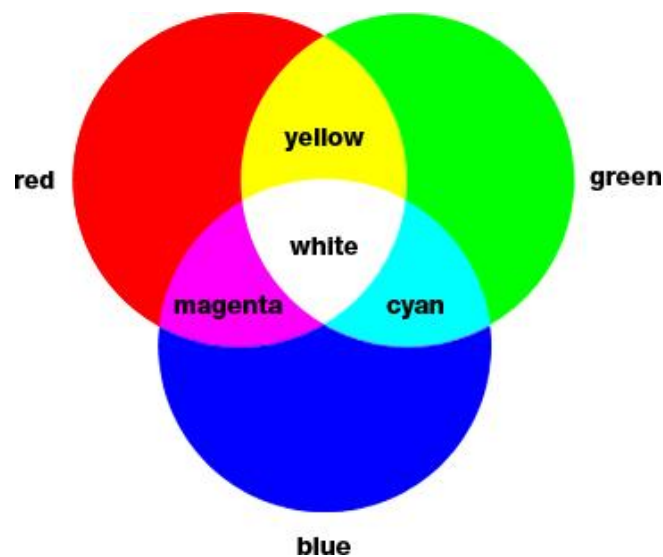


Fig 2: Block Diagram of Automatic Color Shading Machine

We are using 6 tanks for 6 basic colours these tanks will be connect to solenoid valve and this valve will be connected to microcontroller. We are going to provide an appropriate delay to a valve with the help of program given to microcontroller to prepare various types of shades. The more shades of each color we have to work with and mix together, the more colors we can create. If all we had was pure red, pure green and pure blue, the most we could create would be seven different colors, including white if we mixed all three together:



We could also include an eight color in there as well, black, which we would get if we completely removed red, green, and blue.

But what if we had, say, 256 shades of red, 256 shades of green and 256 shades of blue? If we do the math, 256 times 256 times 256 equal roughly 16.8 million. That's 16.8 million colors we can now create! And that's exactly what we get with an 8-bit image - 256 shades of red, 256 shades of green, and 256 shades of blue, giving we the millions of possible colors we usually see in a digital photo

III.PLANNING FOR IMPLEMENTATIONS

We will develop the system of automatic colour shading machine in the following 5 stages.

Stage1: designing of the schematic or circuit diagram.As the concept of our project is innovative and the circuit of the mentioned project is not available anywhere, we are designing our own circuit diagram. Therefore for this stage we require 20 days.

Stage2: component searching as well as fabrication of machine body, it will require 10 days.

Stage3: PCB designing.We are trying to design the PCB on the ORCAD-PCB designing software, it will require 15 days.

Stage4: Fabrication of PCB.We will start etching or drilling after the completions of circuit designing, component searching and PCB designs.

Stage5: Mounting of componentNow we will mount the entire component on the PCB

Stage6: Testing and troubleshooting

IV.SOFTWARE REQUIREMENT

1. Keil –simulator tool
2. Orcad-PCB designing tool
3. Ride -simulator tool
4. Flash magic/µc flash- microcontroller program downloader

V.ADVANTAGES

1. Simple and Convenient to use
2. Less manual power
3. More accurate
4. Satisfy our clientele through great customer service

VI.APPLICATIONS

1. Making paint
2. Textile industry
3. Domestic purposes
4. Colour scheme to multistoried buildings
5. Automobile

VII. CONCLUSION

So, Using Design and Implementation of Automatic Color Shading Machine, we desire that we can choose a color shade of our choice

REFERENCES

- [1] S. T. Sanamdikar and Vartak C., "Color making and mixing process using PLC," International Journal of Emerging Trends & Technology in Computer Science (IJETTCS), Volume 2, Issue 5, September–October 2013, pp. 170-175.
- [2] Laurentiu Schiop and Marian Gaiceanu, " Mathematical Modelling of Color Mixing Process and PLC Control Implementation by Using Human Machine Interface ," IEEE , 2010, 978-1-4244-8409, pp 165-170.
- [3] C. Brunner, B. Shaw, D. A. Butler, and J. W. Funck, "Using color in machine vision systems for wood processing," Wood and Fiber Science, vol. 22, no. 4, 1990, pp. 413-428.
- [4] S. Yoo, C. Precetti, and D. Cassens, "Color machine vision used to establish color grading standards for hardwood dimension parts," American Society of Agricultural Engineers, Nashville, Tennessee, December 15-18, 1992.