# Wireless Remote Controller using OpenCV

**V. Prabhakar[1], B. Maha[2], Ch. Srija Reddy[3], Dr. T. Swapna[4]**

[1],[2],[3]B. Tech Scholars, Department of Electronics and Communication Engineering, SNIST, Hyderabad-501301, India

[4]Assistant Professor, Department of Electronics and Communication Engineering, SNIST, Hyderabad-501301, India

**Abstract -** This paper attempts to integrate color detection and OpenCV to control the movements of a game .It's always best to put what we've learned to use! Since we don't have a wireless controller, we from our knowledge of open CV to play games with a remote, which is an old practice. A few-color dummy gun that can be used in a game has been designed by us. Real-time computer vision is the primary focus of the Open CV library of programming functions. The webcam image's input is filtered through a mask, the colors are identified with hsv values, and the imutils library is used to create contours and use them to identify colored object boundaries. Using pyautogui, the color detection is connected to the moments of the keyboard and mouse. The pyautogui library was used to control the keyboard and mouse. At long last we can play a game by showing the varieties as opposed to utilizing.

**Index Terms :** Open CV , Color detection , pyautogui, Imutils, HSV .

## 1.INTRODUCTION

For many years, video games have enjoyed steady growth in popularity. The trend has only accelerated as people have been looking for new ways to socialize and stay entertained. The gaming industry is now larger than sports and movies combined. In 2020, gaming revenue increased by 12%. In addition, four out of every five Americans had played a video game in the previous six months at one point in the previous year. The application for OpenCV has a lot of different features, like a facial recognition system, gesture recognition, motion tracking, and other features. Be that as it may, in this subject, we will simply just attempt the Picture Handling region to distinguish the shade of an article . Using OpenCV python, we will create a fundamental colour-based object detector for this project. Color Detection and Segmentation is a method of image processing that will be used to create this here.

## 2. LITERATURE SURVEY

### 2.1. Existing Model

The process of identifying the color in an image or video that is requested or clicked on is known as color detection. The R, G, and B values are captured, analyzed, and compared, and the appropriate color is provided.

1.Because it finds and stores the colors in images and videos, the color detection process is an essential step.

2.The picture catch process the proselytes simple (variety) data into a bunch of computerized information (R, G, B values).

### 2.2. Proposed Model

The Color detection is very simple to implement and makes it simple for identify the color the number of people who are suffering from this, and since we are aware that it can be extremely disheartening to be unable to see the colors, the least that can be done is to inform them of their true names. ally based on clusters that were taken before the judge at the time of the arrest includes the possibility of being found guilty or innocent.

### 2.3. Related Work

OpenCV is a computer vision, image processing, and other software library that is free to use. It is an essential component of modern computer systems and plays a significant role in the operation of real-time images. By utilizing this product the client can handle picture, distinguish items and this library of OpenCV is step by step developing a direct result of its capacity to perform more complicated errands in handling pictures and so on in a reliable way. This library has been applied broadly in organizations, public bodies (like Government bodies ), deeply grounded programming organizations like Google, Hurray, Microsoft, Intel, IBM, Sony, Honda utilize OpenCV. OpenCV has a high rating will be used by self-driving cars to collect colors from other cars' lights, road traffic lights, passing lights, stop lights, and indicator lights using Deep Learning.

**2.4. Methodology**

**Module I : Image Capture and Storage:**

•In this module, the catching of picture happens. The image that is saved during this process is used to determine the color later.

•The image that the user enters is stored in the program and resized to 800 x 600 pixels. The decrease in image size and the judicial use of the provided storage

**Module II: Image Processing**

• In this module, when the program is run, it opens a 800 x 600-pixel image processing window and loads the image in that window.

•The image for further operation is provided by the programs that are run over in this module.

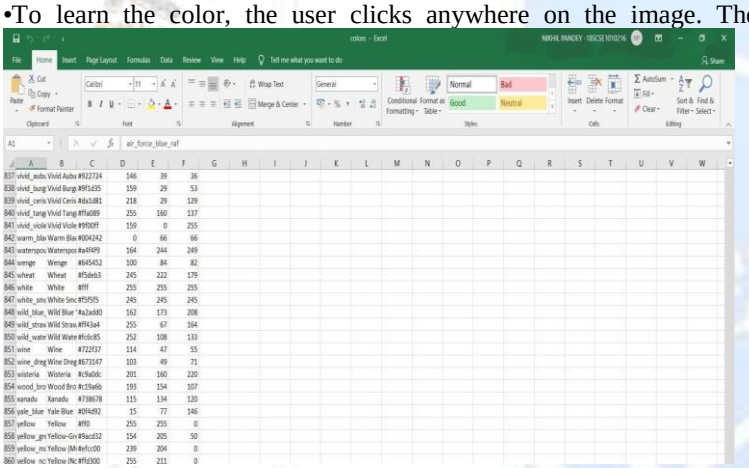
•When the program is ready to detect the color and all of the images have been flawlessly processed.

**Module III: Color Detection**

• In this module, the program has finished processing images and is prepared to take user input.

•The color that is currently displayed in the window can now be displayed by clicking anywhere in the program.

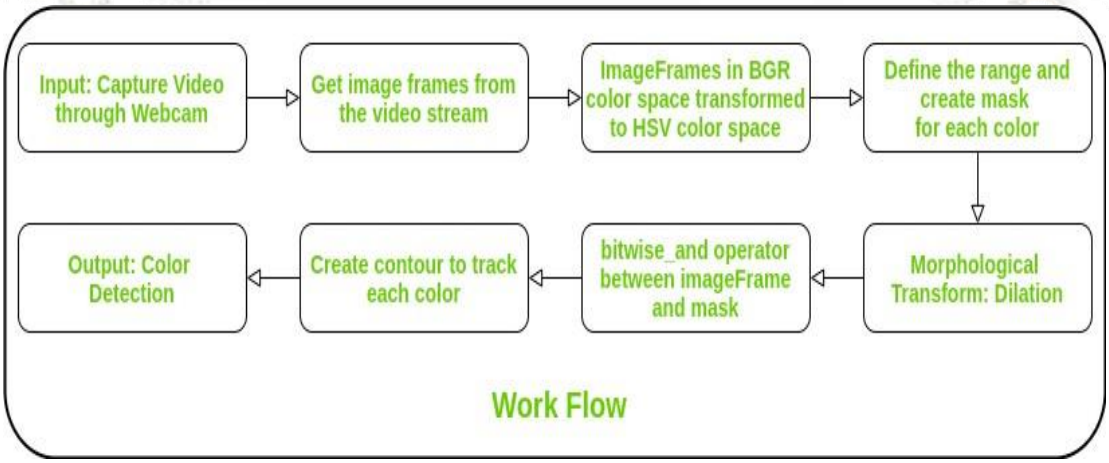
•To learn the color, the user clicks anywhere on the image. The name of the color as well as its R, G, and B values



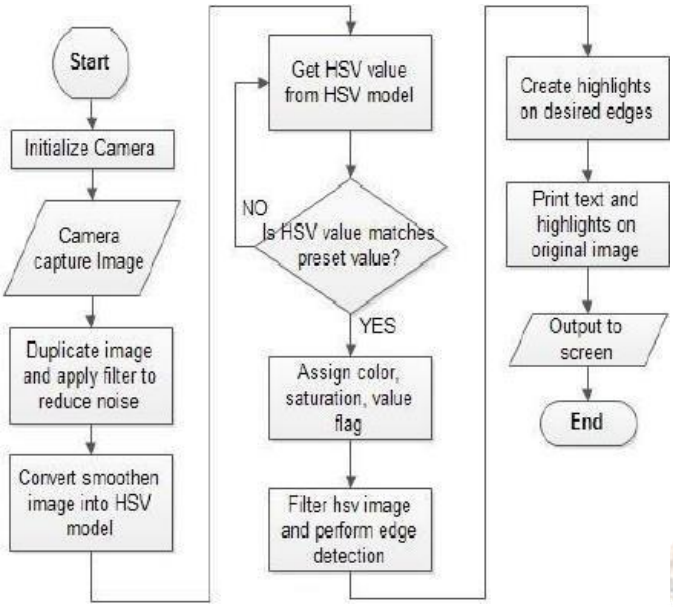
The above dataset contains 865 colors along with their R, G, B values we will be using this dataset only to get the colors for the mouse clicks.

**3. SYSTEM DESIGN:**

**3.1. System Architecture**



### 3.2. Data Flow Diagram




## IV.RESULTS, DISCUSSION, AND CONCLUSION

The "**Wireless Remote controller using OpenCV**" project has been successfully implemented and tested. The Technology for color detection has come a long way, has a long way to go. when we observe self- driving vehicles operating in accordance with traffic regulations on public roads. The machines are prepared for it right now. Tesla is an innovator in this field. However, the color detection programs of the next generation will feature a greater number of upgrades.

They should be consistent with people's understanding of when recognition ends and do not necessitate any special interactions. This proposes that future savvy conditions ought to involve similar techniques as people, and have similar impediments. Now, these objectives are doable.

The system has made it abundantly clear that it is able to produce the same color across the spectrum. Two distinct implementations, one utilizing the mobile camera and the other the RGB sensor, have been designed and tested in addition to the manual RGB entry. The system is a necessary tool for many different kinds of industrial applications, like digital printing, textiles, cosmetics, building materials, and so on.

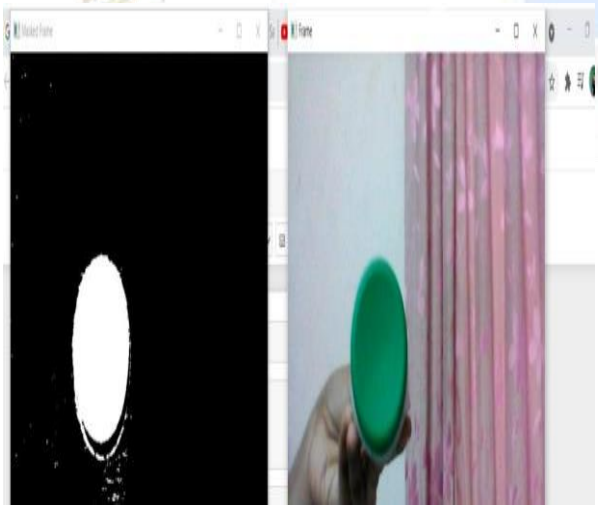


Fig 1 : Masking and contour

Fig 3 : Controlling Game

Fig 2: Gun for Game

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