Mensturation Blood Color Detection: Color detection using AI

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Abstract- *The color of a time period Blood contains a wealth of essential information about a person's health. The body releases tissues and blood from the uterus through the vaginal canal when a woman is on her period. The color of the blood expelled from the body allows us to determine if it is good or bad and to administer the essential medication before it moves to a new position. for example, vaginal infection and others. A correct discovery is required because these distinct colors are caused by various hormonal shifts and medical disorders.*
We can develop a mobile application using artificial intelligence that will analyze a sample image of blood as input, determine whether the blood is healthy or not, and provide some health advice. Global health and gender equality depend on paying attention to women's and girls' menstruation needs.
Support for this underutilized experience needs to be strengthened. We should dedicate a stage to promoting health and wellbeing, empowering, teaching, and advancing scientifically based health results. We should also work to improve social involvement by shattering taboos and eradicating stereotypes. The goal of this classifier is to create a platform that analyses period blood using AI and color discovery to configure women's health and identify any underlying illnesses or symptoms.

Keywords- *(Hormonal shifts, Artificial Intelligence, Color Analysis, Menstruation)*

I. INTRODUCTION (*HEADING 1*)

the hormonal cycles a woman experiences each month to get ready for a potential pregnancy is called menstruation.
between puberty and menopause, regular menstrual cycles typically sign that your body is functioning normally. ages that are irregular or uncomfortable are not typical.
Many women also experience premenstrual syndrome (PMS) symptoms. You may learn a lot about your health from your menstrual cycle. Period issues like painful or irregular ages could indicate a significant health issue. Different circumstances can cause a womans period to hurt her health. The socio-cultural aspect demonstrates the impact of societal standards governing how to treat menstrual women. one of the topics that are brought up the most is menstrual diseases.
Menstrual disorders are, in fact, one of the most frequently discussed topics. menstrual disease should be further discussed during doctor-patient interactions. the patient must use this platform to find a unique and personalized solution to her menstruation issue.

II. LITERATURE REVIEW

People have revealed, created and disseminated information throughout history using technology and information in a variety of daily forms. The more popular a design is, the more influence information about visual design has on the design's state of development. Color and image are the two main factors that drive visual communication design. These two qualities without a doubt help attract the public's attention. The foundation of this composition is artificial intelligence (AI) technology, which supports the advancement of color analysis and detection operations in design for visual media and communication.

The proposal's objective is to develop visual media and communication in a way that deviates from the traditional methods of color detection and image processing, raising the bar for study and discovery in the field of color analysis. This essay describes the history, essential elements, and determining factors of visual communication design as well as the operation of AI technology. Additionally, a paradigm for creating visual media that is based on AI automation is developed.

III. METHODOLOGY

Artificial intelligence, or AI, is a concept whose horizons are continually increasing. Its components include theories, methods, tools, and systems used for inspiration and research. The applications of AI technology in visual media and communication design include helping designers create more ADA-compliant color palettes and offering users a more faultless experience. AI technology combined with simulation tests can also improve design for visual media and communication. A better perception of images is made possible by the use of artificial intelligence in visual media communication design. The development of a more thorough notion of design for visual media and communication may also benefit greatly from the technology for picture identification and artificial intelligence.

Followership is also more suited to accept knowledge and comprehending its meaning. Information processing and

artificial intelligence are related in the same way that proposition and practice are. Artificial intelligence isn't just confined to logical reasoning from a thinking standpoint. For the development of artificial intelligence, the study of picture thinking and stimulating thinking is crucial.

A. DEFINITION: -

Color detection is the process of identifying any color by its name. Light receptors in the brain carry messages from the eyes. Our brains gradually develop the ability to recognize colors. Exploring, identifying, and learning have been mapped into a list of colors that we may relate to a variety of codes as well as names as a result of such growth. AI also makes use of this imitation of human learning methodology.

B. DATASETS

The primary colors that make up all other colors are red, green, and blue. A computer's defined color values fall between 0 and 255. A colour can be defined in 256*256*256 = 16,581,375 distinct ways.There are around 16.5 million possible ways to depict a color. Each color's value must be converted to its appropriate name in our collection.

C. DESIGN -

Before creating a system, it is necessary to evaluate the entire thing. A fundamental requirement is to start by illustrating a use case and the features of the system. Additionally, if each functionality is linked, they are transformed into use cases that will be used in the use case illustration. The actors who will interact with the system will be matriculated as our next action. The entities that invoke a system's functions are known as system actors. It can be either a system or a private reality, but both must be material to the functions of the system with which it will interact. Based on the actors and use cases, a relationship between them is audited.
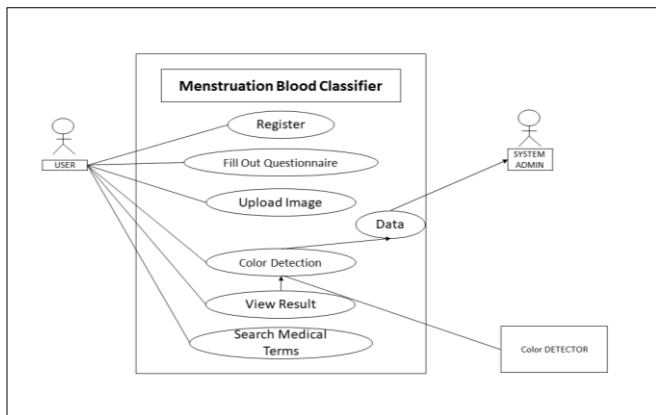

Figure 1: Use Case Diagram

D. ALGORITHM ANALYSIS

The color detection algorithm follows the steps, directed below:

Step 1: Obtain the file containing our dataset as step one. We are using the argparse library to build an argument parser. When we need to do color-related operations on data, the Panda library comes in quite handy. Each column has a color code and name attached to it for easy searching.

Step 2: A window that we create will show the supplied image. A message function is also configured to be called each time a mouse event takes place.

Step 3: Create a function that ascertains the RGB values for each pixel. The mouse position is represented by the event name (x, y) in the function arguments. This algorithm creates and alters the r, g, and b values as well as the mouse's x and y coordinates when the event is double-clicked.

Step 4: The getColorName method should be configured to retrieve the color depending on the Pixel value. We compute a distance(d) that represents our proximity to the color and choose the choice with the least distance to determine the color name. The equation used to determine our distance is

Distance = pixel_value (Red – ithRedColor) (Green – ith GreenColor) (Blue – ith BlueColor)
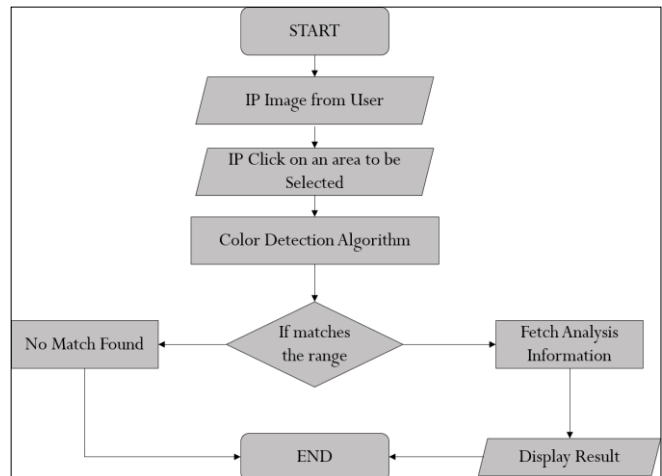

Figure 2: Work Flow Diagram

IV. RESULT –

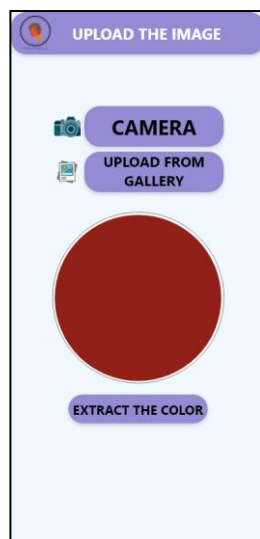

Figure 3: Welcome page of Mobile Application

Figure 4: Data Uploading and Color Extraction

Figure 5: Color Classification

V. CONCLUSION –

The study of graphic processing prototypes, as well as color recognition and analysis in AI visual automation, are the main areas of attention in this research. By reading pertinent literature, we carefully investigated the color analysis system and display function. This paper begins with a brief explanation of how AI technology operates and a number of concepts that are based on its inheritable algorithm. The analysis of color's current state, the satisfaction analysis of color detection and graphic operation in visual media, and an analysis of its health are the three angles from which it concludes.

The research of related image applications is still in its early phases, and the use of automation in the generation of visual media is not yet at a suitably advanced degree, which is the paper's limit. There is still much room for advancement in research and development. Nevertheless, there is still an opportunity for innovation and progress in the field of visual media color analysis and detection.

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