

TEAM 6

# BLOOD GROUP IDENTIFICATION



# INTRODUCTION

- This project aims to create web based application using Django for blood group identification system using OpenCV and image processing, making blood typing faster and reducing human error.
- By leveraging OpenCV, we process captured images to detect specific patterns and colors that reveal blood types, allowing for accurate, real-time identification.
- The system applies image preprocessing, segmentation, and color analysis to analyze blood sample reactions, automatically classifying the blood group.

# PROJECT OVERVIEW

## CUSTOMER FEATURES:

1. CREATE A NEW USER ACCOUNT TO ACCESS THE APPLICATION
2. LOGIN WITH YOUR USERNAME AND PASSWORD
3. INPUT PAGE FOR UPLOADING A IMAGE
4. OUTPUT FOR DISPLAY THE IDENTIFIED BLOOD GROUP

# MILESTONES

1

The system allows users to create an account on the registration page, log in to their account to access the profile page, and upload images on the profile page for identification.

2

Implemented OpenCV functions to process and analyze the images, determining the basic conditions for identifying the blood type.

3

Reading the uploaded image from the profile page, encode into base64 encoding and decode into OpenCV format. After implemented the functions to find the lengths of the contours.

4

Executed morphological operations to structure the uploaded images, performed agglutination analysis, and identified the blood type.

# Homepage/Signup



Welcome to Blood Group Identification Page!!!

Welcome to Registration Page

Already account created? [Login Here](#)

Register

Username:

Password:

Password confirmation:

Register

A screenshot of a registration page titled "Welcome to Blood Group Identification Page!!!". The background features a dense cluster of red blood cells. On the right side, there is a "Register" button and three input fields for "Username", "Password", and "Password confirmation". Below the "Register" button is a link "Already account created? [Login Here](#)".

# LOGIN/PROFILE PAGE

Welcome to Blood Group Identification Page!!!



Welcome to Login Page

New user? [Register Here](#)

Login

Username:

Password:

[Login](#)

Welcome to Blood Group Identification Web App!

Upload Blood Cell Image

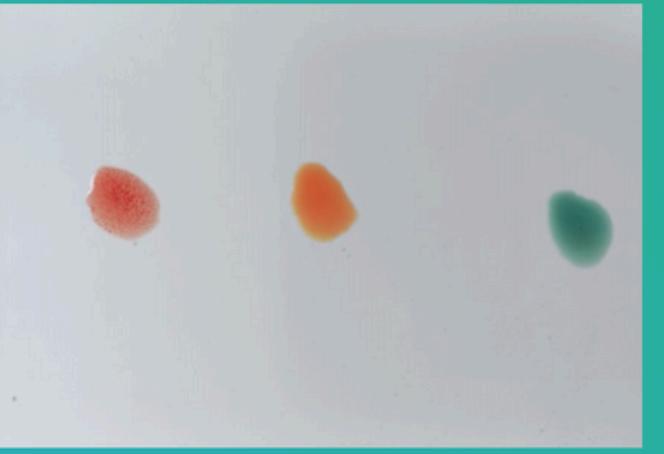
Choose File No file chosen

[Check Blood Group](#)

# OUTPUT

**image1.jpg**

**Uploaded Image:**



**Morphed Image:**



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**Blood type: AB Positive**

**image2.jpg**

**Uploaded Image:**



**Morphed Image:**



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**Blood type: AB Positive**



# ADVANTAGES

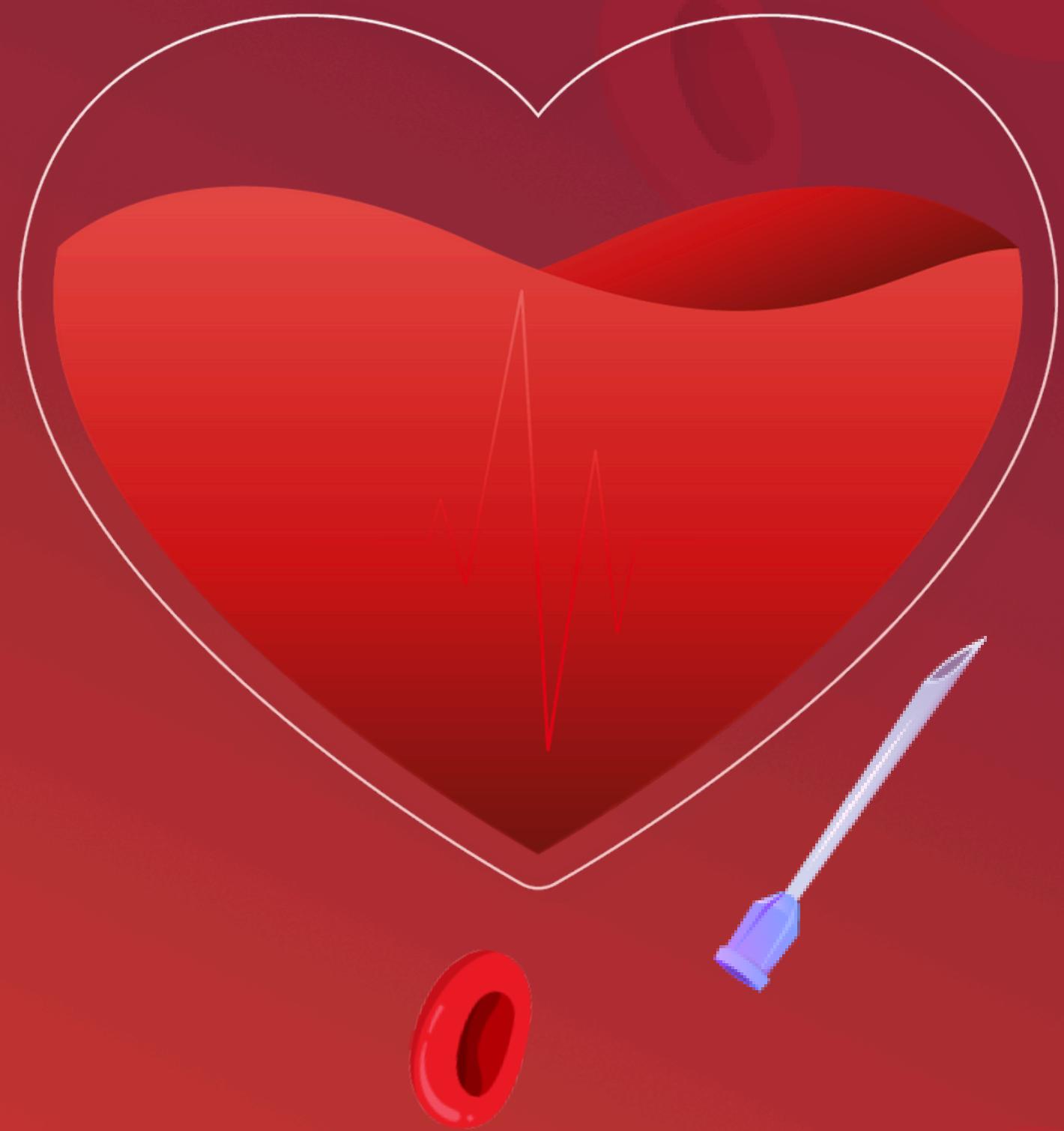
- Rapid Results
- Remote Access
- Reduced Human Error
- Cost-Effective

# CONCLUSION

The blood group identification project utilizing OpenCV showcases a fast and automated method for determining blood types through image analysis. This technique improves testing efficiency and accuracy, highlighting the potential of computer vision in medical diagnostics. Future advancements can refine the system for varied conditions and expand its applications.

# TEAM MEMBERS

1. VAMSI KRISHNA BANDARUPALLI
2. DEEPAK
3. KABILAN



**THANK YOU**