TEAM 5

BLOOD GROUP IDENTIFICATION

INTRODUCTION

- The project aims to automate the identification of blood groups by combining Django, a robust web framework, with OpenCV, a powerful computer vision library, to analyze blood sample images efficiently and accurately.
- OpenCV is employed to process and interpret images of blood tests, identifying the ABO and Rh blood groups, while Django provides a user-friendly web interface for uploading images and viewing results.
- By streamlining blood group identification, the system minimizes human error, speeds up the process, and offers a scalable solution for medical diagnostics and blood donation systems.

PROJECT OVERVIEW

Customer Features:

1.Create a new user account to access the application

2.Login with your username and password

3.Input for Uploading an Image

4. Output to 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.

MILESTONES

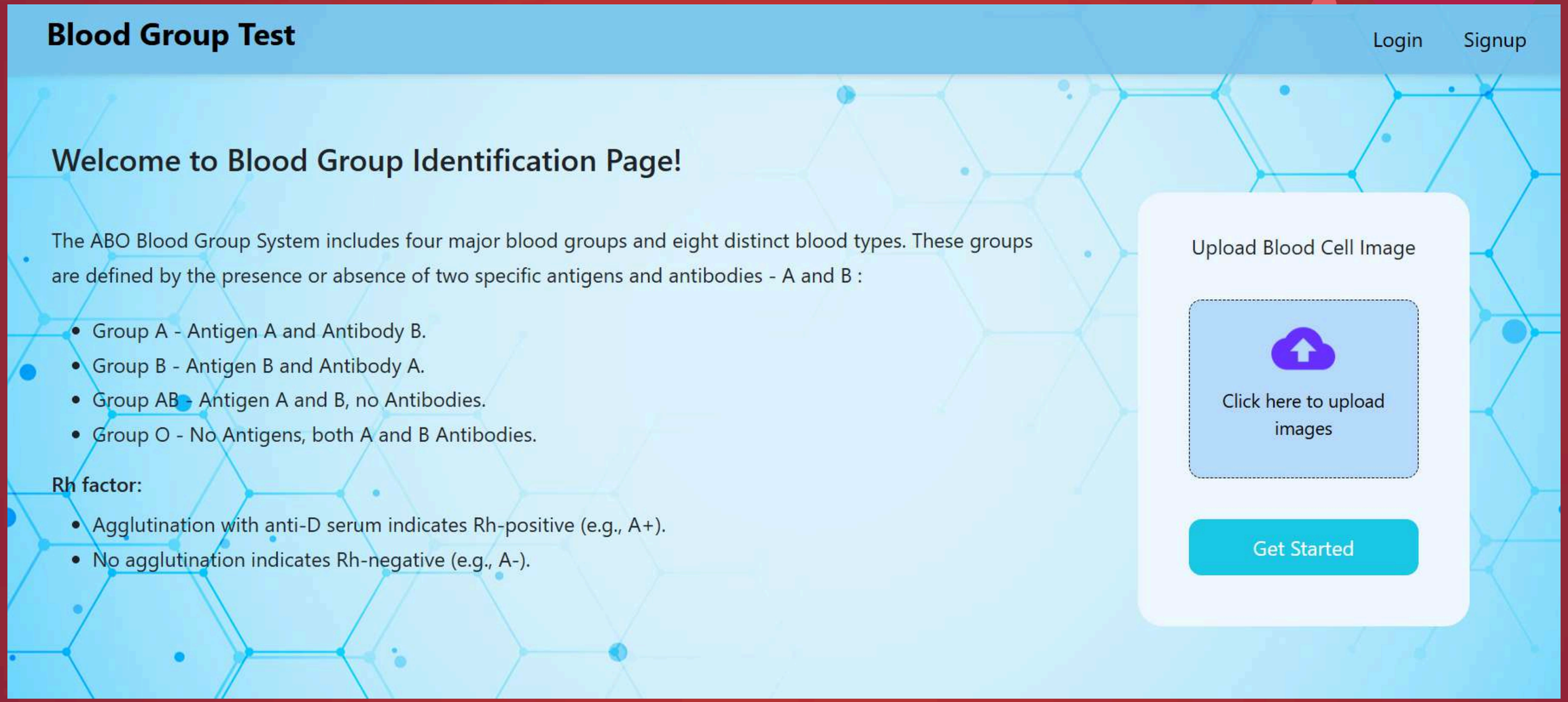
3

Implemented the functions to process and display the uploaded images on the web page with contours.

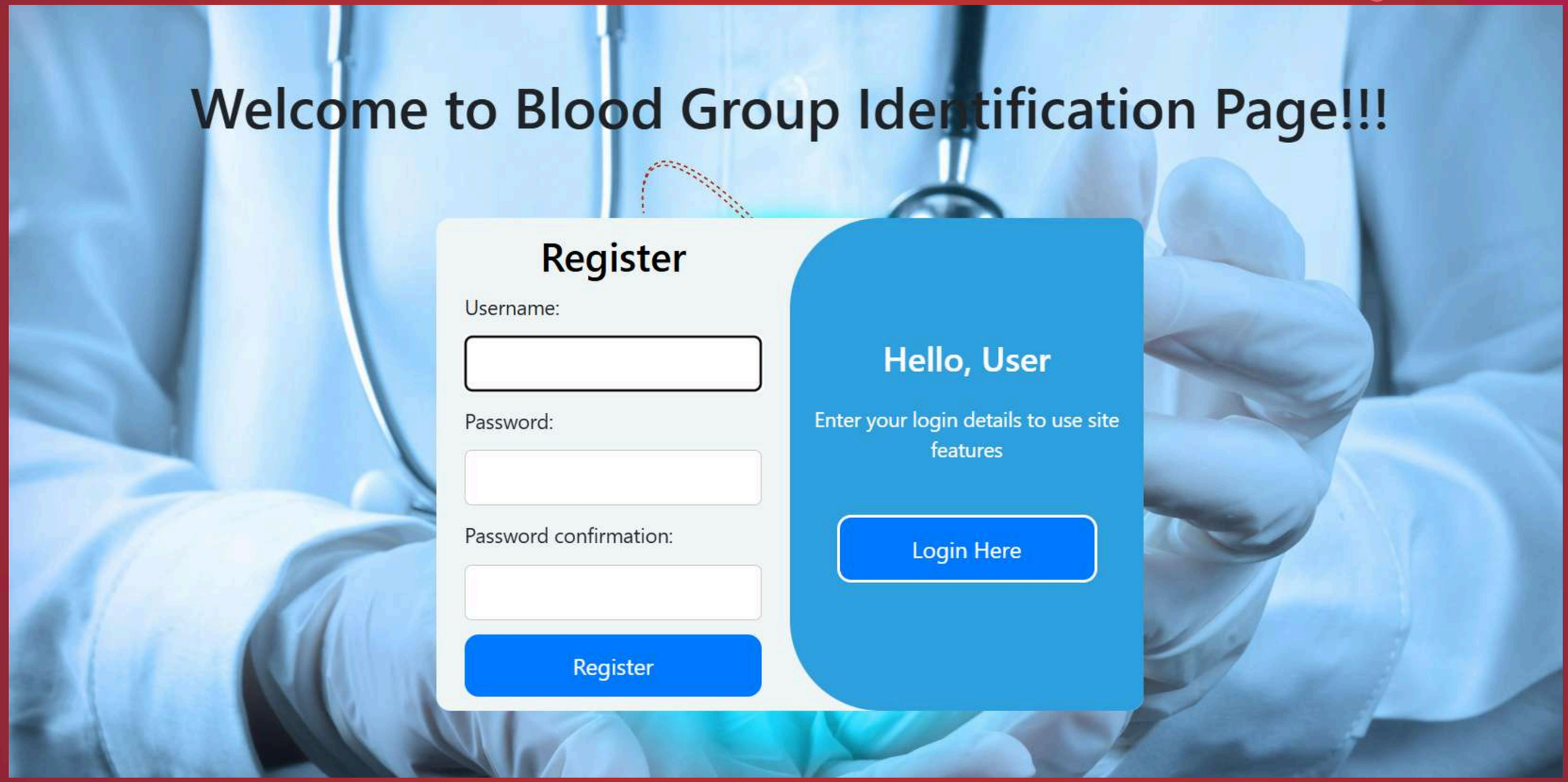
4

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

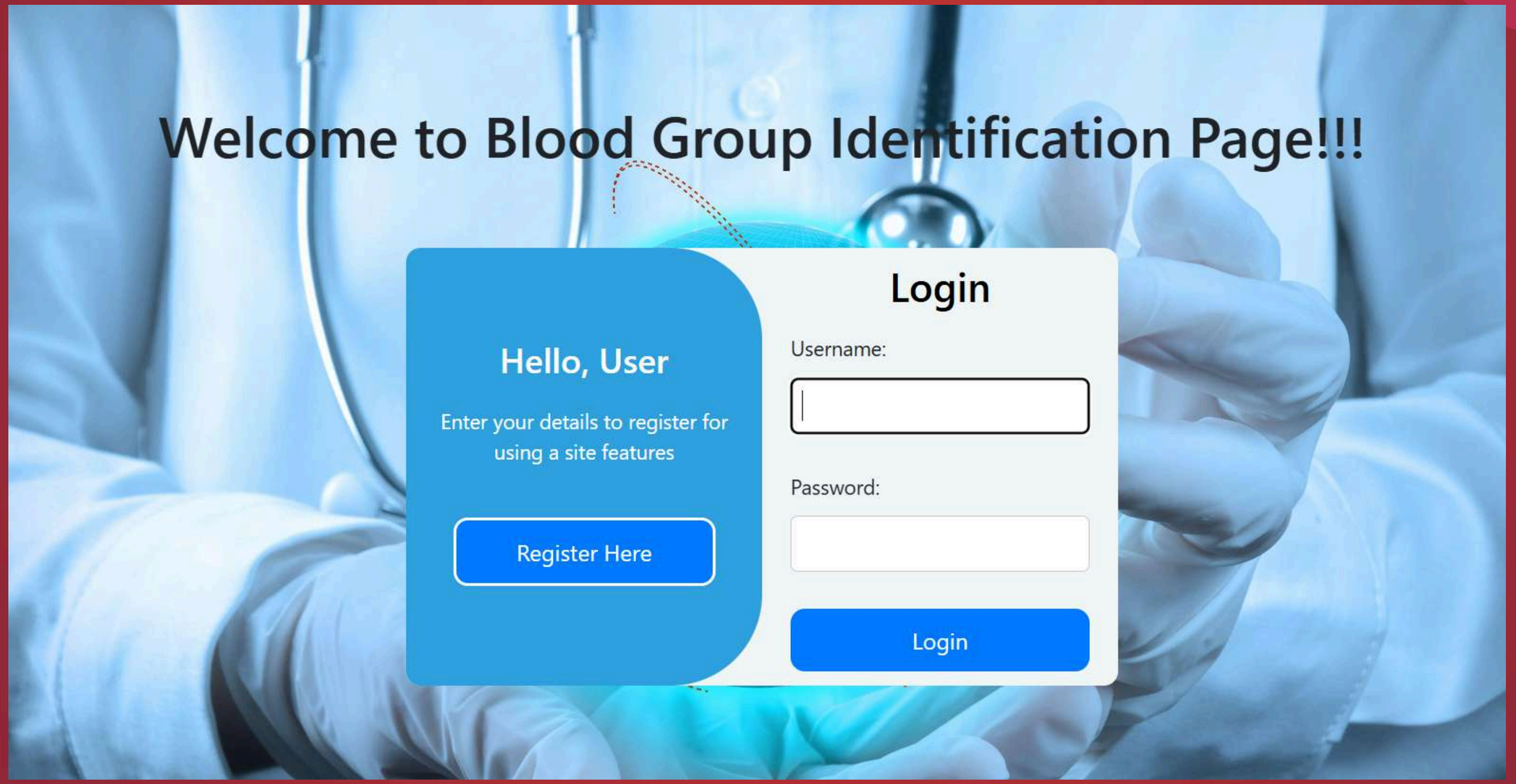
Home Page


Blood Group Test
Login
Signup
Welcome to Blood Group Identification Page!
The ABO Blood Group System includes four major blood groups and eight distinct blood types. These groups are defined by the presence or absence of two specific antigens and antibodies - A and B :
Group A - Antigen A and Antibody B.
Group B - Antigen B and Antibody A.
Group AB - Antigen A and B, no Antibodies.
Group O - No Antigens, both A and B Antibodies.
Rh factor:
Agglutination with anti-D serum indicates Rh-positive (e.g., A+).
No agglutination indicates Rh-negative (e.g., A-).
Upload Blood Cell Image
Click here to upload images
Get Started

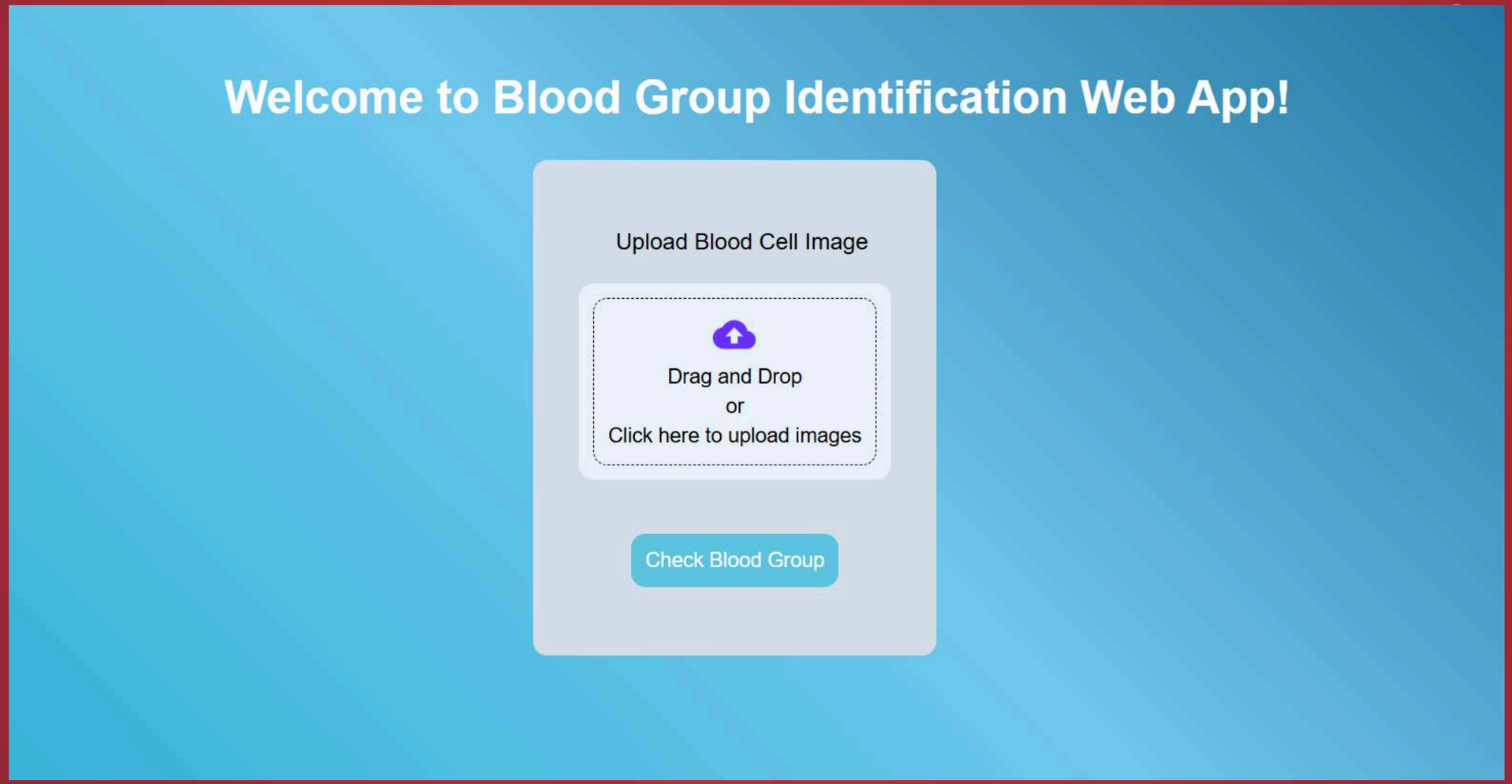
Signup Page


Welcome to Blood Group Identification Page!!!
Register
Username:
Password:
Password confirmation:
Register
Hello, User
Enter your login details to use site features
Login Here

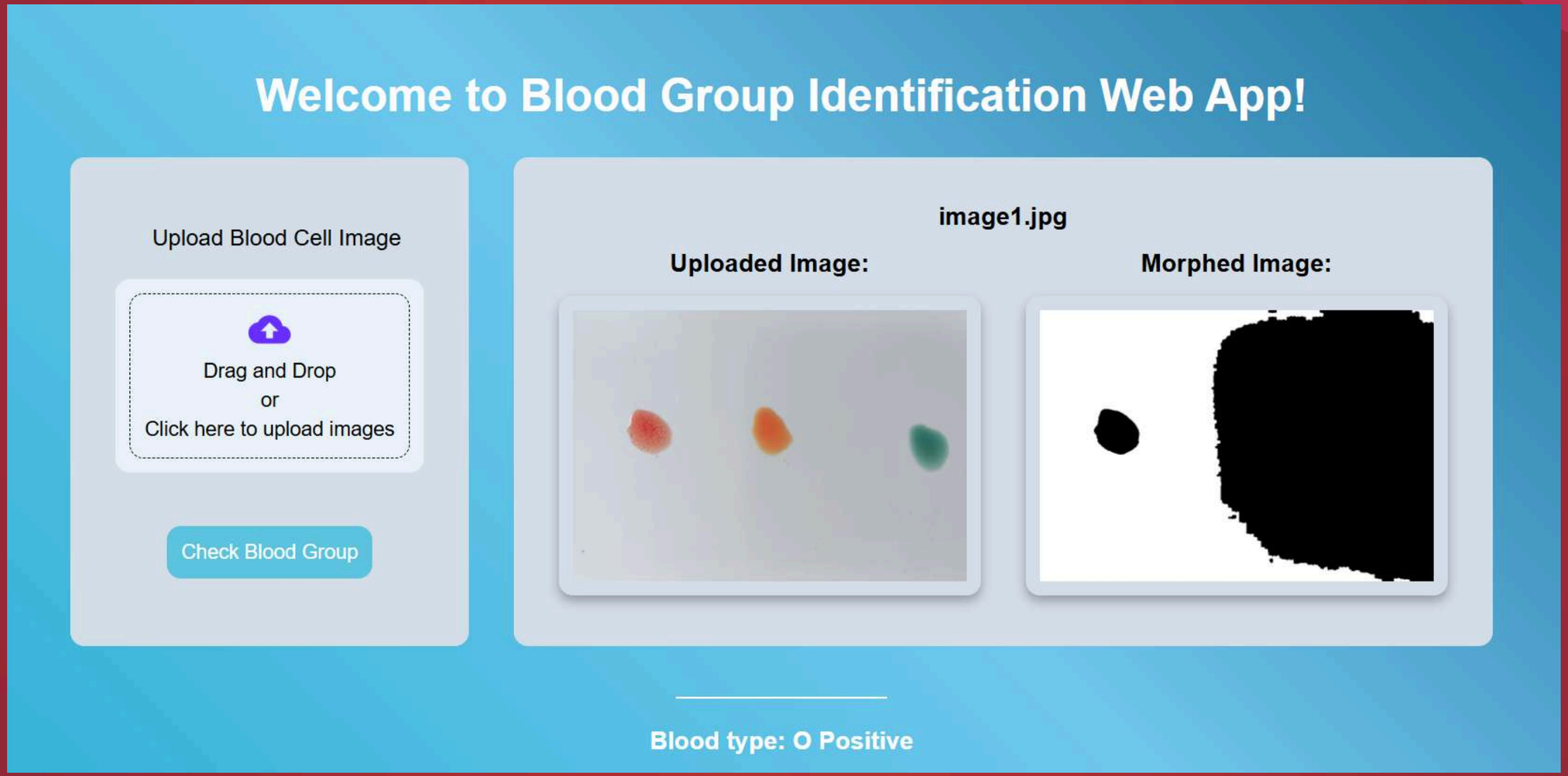
Login Page


Welcome to Blood Group Identification Page!!!
Hello, User
Enter your details to register for using a site features
Register Here
Login
Username:
Password:
Login

Profile Page



Outputs


Welcome to Blood Group Identification Web App!
Upload Blood Cell Image
Drag and Drop
or
Click here to upload images
Check Blood Group
image1.jpg
Uploaded Image:
Morphed Image:
Blood type: O Positive

Welcome to Blood Group Identification Web App!

Upload Blood Cell Image

Drag and Drop
or
Click here to upload images

Check Blood Group

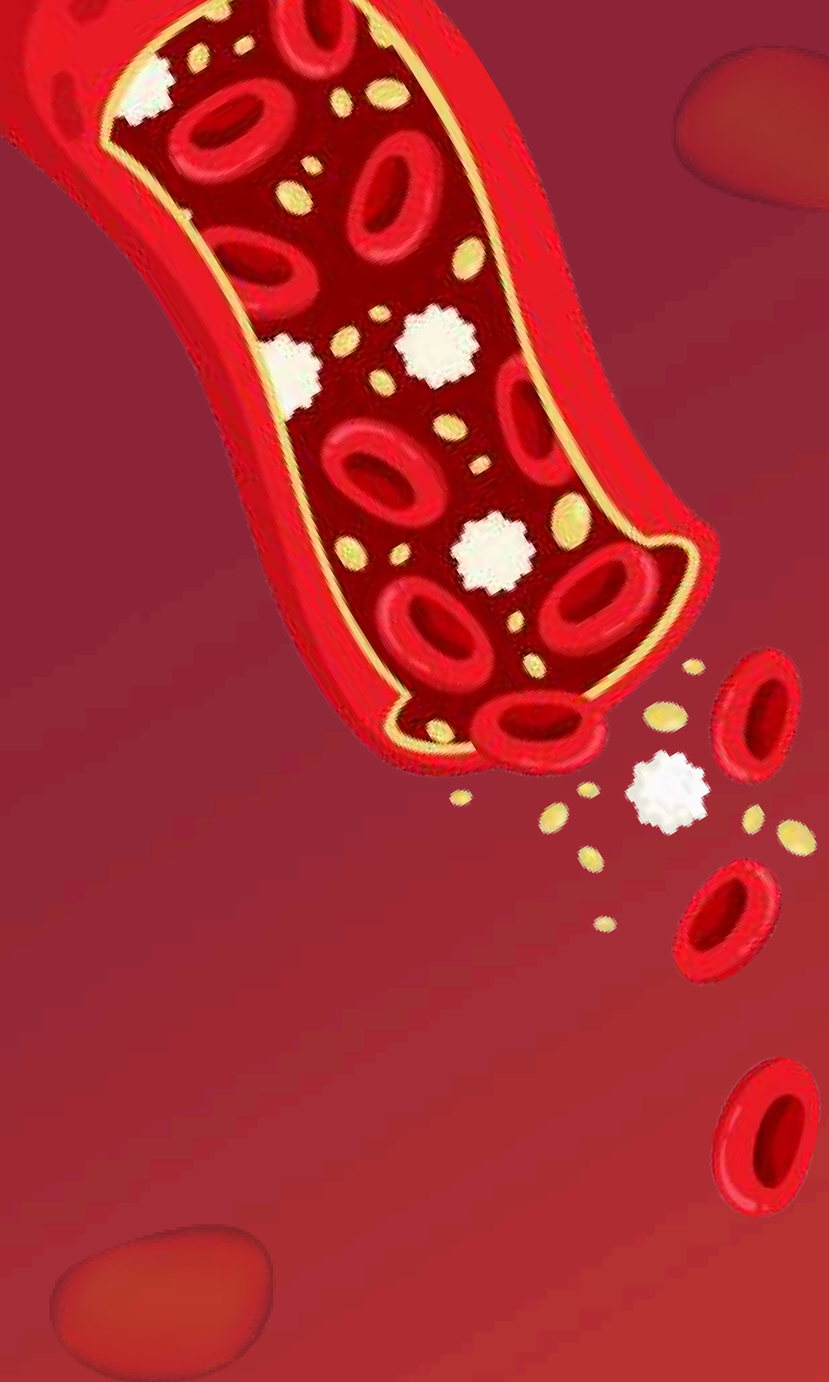
image2.jpg

Uploaded Image:

Morphed Image:

Blood type: A Negative

Project Demo



ADVANTAGES

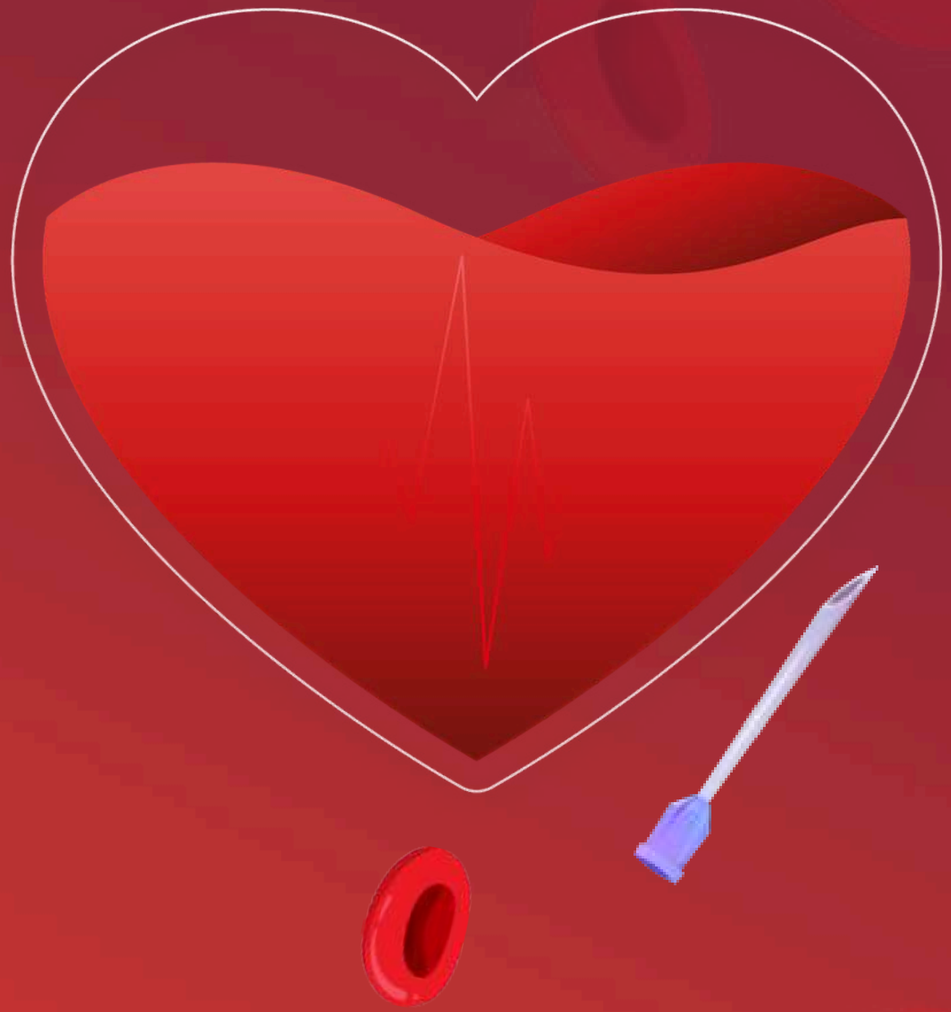
- Rapid Results
- Remote Access
- Reduced Human Error
- Cost-Effective

CONCLUSION

This project simplifies blood group identification by utilizing Django and OpenCV to provide quick and accurate results critical for medical applications. The user-friendly web interface ensures ease of operation, while automation reduces human error, improving system reliability. Built with scalability in mind, the solution can be enhanced with additional diagnostic features, making it adaptable to future healthcare innovations.

TEAM MEMBERS

1. VAMSI KRISHNA BANDARUPALLI
2. DEEPAK
3. KABILAN




THANK YOU