

---

# Test Document

for

## Central Blood Bank Management System

Version 1.0

Prepared by

**Group:14**

**Group Name: Dead Inside**

Nibir Baruah	19807545	nibir@iitk.ac.in
Adhiraj Sinha	190053	adhirajs@iitk.ac.in
Aditya Prakash	190066	prakasha@iitk.ac.in
Amit Kumar Singh	190117	amitsgh@iitk.ac.in
Harsh Patel	190363	harshp@iitk.ac.in
Anuj Chaudhary	190165	anujch@iitk.ac.in
Ayush Singh	190217	ayushsgh@iitk.ac.in
Manish Mayank	190482	manmay@iitk.ac.in
Kartik Jhanwar	190418	kartikjh@iitk.ac.in
Nikhil Mehta	190549	nikhilme@iitk.ac.in
Nishima Panwar	190562	niship@iitk.ac.in

**Course:** CS253

**Mentor TA:** *Ashutosh*

**Date: 31-03-2023**



<b>CONTENTS</b>	<b>II</b>
<b>REVISIONS</b>	<b>II</b>
<b>1 INTRODUCTION</b>	<b>4</b>
<b>2 UNIT TESTING</b>	<b>5</b>
<b>3 INTEGRATION TESTING</b>	<b>6</b>
<b>4 SYSTEM TESTING</b>	<b>8</b>
<b>5 CONCLUSION</b>	<b>10</b>
<b>APPENDIX A - GROUP LOG</b>	<b>6</b>

## Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Nibir Baruah	Test Doc 1.0	31/03/23
	Aditya Prakash		
	Amit Kumar Singh		
	Harsh Patel		
	Anuj Chaudhary		
	Ayush Singh		
	Manish Mayank		
	Kartik Jhanwar		
	Nikhil Mehta		
	Nishima Panwar		
	Adhiraj Sinha		

# 1 Introduction

## *Mention the test strategy*

### *(Manual testing? Test automation? ...)*

We follow manual testing, but have also written automatic tests for the different components. The automatic tests are incomplete and can be completed for ease of testing in future versions of the software. The automatic testing is done for models, forms, urls and views.

## *When was the testing conducted?*

### *(in parallel with the implementation? After the implementation was completed? ...)*

The unit testing was done in parallel with the implementation, whereas the integration and system testing was done after we completed most of the implementation

## *Who were the testers?*

### *(the developers? Independent testers? ...)*

The Developers were the testers.

## *What coverage criteria were used?*

The tests cover all the major functions of the software and all the individual units of the code.

## *Have you used any tool for testing?*

We have used unittest and DjangoTest library from the Django framework for writing the automatic tests. Manual testing has been done without any tool.

## 2 Unit Testing

### 1. View Landing Page

Information on the page is in the correct format and all the buttons lead to the required page.

**Unit Details:** LandingPageView

**Test Owner:** Harsh Patel

**Test Date:** 01/03/2023

**Test Results:** Information is correctly structured and presented. Buttons and Links redirect to their required page.

**Structural Coverage:** Null

**Additional Comments:** Null

### 2. Blood Bank Login

For the correct username and password, Blood bank gets logged in, and in case of any error, the required error is shown.

**Unit Details:** BloodBankLogin

**Test Owner:** Harsh Patel

**Test Date:** 03/03/2023

**Test Results:** The blood bank is logged in by entering the correct username and password. For the wrong password or an unknown username error is generated.

**Structural Coverage:** Both correct and incorrect username, password were tested.

**Additional Comments:** Null

### 3. Blood Bank Signup

Blood banks can register on the portal by providing the necessary details: Blood Bank Name, Username, Email id, Password, Address, Contact, State, and City.

The details must be in the requested format. Otherwise, the user is asked to match the format after clicking the submit button. State and City must be selected from the drop-down list.

**Unit Details:** BloodBankSignup

**Test Owner:** Aditya Prakash

**Test Date:** 18/03/2023 - 19/03/2023

**Test Results:** When clicking on the submit button, an appropriate message is shown if any field is empty or not in the requested format. If a state or city has not been selected, the user is asked to select one from the list. If the user is already registered, an appropriate error is thrown.

For valid inputs, the Blood bank gets registered.

**Structural Coverage:** Tested by providing various valid and void alphanumeric combinations as input to the fields, both according to the format and in violation of it.

**Additional Comments:** Null

#### 4. Dashboard for Blood Bank

Stock details of RBC, Platelets, Plasma, CryoAHF and Granulocytes for all the blood types are tested after every new value is updated.

**Unit Details:** blood\_bank\_dashboard

**Test Owner:** Amit Kumar Singh

**Test Date:** 15/03/2023

**Test Results:** All the stock details are correctly displayed. New values are correctly updated to the corresponding stock values on clicking on 'Update Details' button.

**Structural Coverage:** null

**Additional Comments:** null

#### 5. Update Blood Component

Upon hitting the update button, new blood component should be updated correctly.

**Unit Details:** UpdateBloodComponent

**Test Owner:** Ayush Singh

**Test Date:** 16/03/2023

**Test Results:** New blood component gets correctly updated on hitting the update button.

**Structural Coverage:** Tested by updating with different blood components for each test.

**Additional Comments:** Null

#### 6. View Profile Details for Blood Bank

Profile details shown on clicking the profile button are all correct corresponding to the details entered during sign-up.

**Unit Details:** ViewProfile

**Test Owner:** Anuj Chaudhary

**Test Date:** 15/03/2023

**Test Results:** Information is correctly structured and presented. Button redirect to the required user profile page.

**Structural Coverage:** Null

---

**Additional Comments:** Null

## 7. Update Profile Details

Updated Profile details shown on clicking update button are all correct corresponding to input given during updation.

**Unit Details:** UpdateProfileDetails

**Test Owner:** Anuj Chaudhary

**Test Date:** 16/03/2023

**Test Results:** Information is correctly structured and presented. The 'update button' correctly updates the details.

**Structural Coverage:** Mobile number field is tested with numbers having greater than, less than and equal to 10 digits. It correctly identifies the correctness of number.

**Additional Comments:** Null

## 8. View Add Blood Camp

Test if Blood bank details are same as given on signup and all fields for the Blood camp are shown and accessible for users

**Unit Details:** ViewAddBloodCamp

**Test Owner:** Manish Mayank

**Test Date:** 17/03/2023

**Test Results:** Blood bank details are correct and all the fields like camp name, organizer, starting and ending date and time are correctly shown and the user is able to change them on clicking.

**Structural Coverage:** The test is done with the required fields left empty and it prompts the user on doing so.

**Additional Comments:** Null

## 9. Add Blood Camp

Test if the Blood bank is able to add the blood camp by entering the correct field details.

**Unit Details:** AddBloodCamp

**Test Owner:** Manish Mayank

**Test Date:** 17/03/2023

**Test Results:** Blood Bank is able to add the blood camp only when correct field details are entered.

It gives an error prompt if any field is wrong filled or not filled.

**Structural Coverage:** Null

---

**Additional Comments:** Null

## 10. View Search Blood Component

Users have to select state, city, blood group and blood component from the dropdown menus.

**Unit Details:** ViewSearchBloodComponent

**Test Owner:** Kartik Jhanwar

**Test Date:** 20/03/2023

**Test Results:** If any of the fields is empty, user is asked to select an appropriate entry.

**Structural Coverage:** NULL

**Additional Comments:** NULL

## 11. Search Blood Component

Users can search for blood components on the portal by providing state, city, blood group and blood components and by clicking on the search button they can get the list of blood component. All the details must be selected from the drop-down list.

**Unit Details:** SearchBloodComponent

**Test Owner:** Kartik Jhanwar

**Test Date:** 20/03/2023

**Test Results:** On clicking the search button, if the blood components are present then they are displayed and if not then nothing is shown.

**Structural Coverage:** NULL

**Additional Comments:** NULL

## 12. Blood Bank Logout

Once the user gets logged in, the logout button leads to the landing page through all the pages present.

**Unit Details:** BloodBankLogout

**Test Owner:** Nishima Panwar

**Test Date:** 15/03/2023

**Test Results:** The logout button is correctly redirecting the user to the landing page

**Structural Coverage:** NULL

**Additional Comments:** NULL

## 13. Auto Location Detect



For searching the blood components and to look for Camps to donate blood, on loading of the page we fetch the location of the user to automatically add his state and city for respective fields in the form.

**Unit Details:** AutoLocationDetect

**Test Owner:** Harsh Patel

**Test Date:** 17/03/2023

**Test Results:** Correct state and city were detected and entered in the form fields.

**Structural Coverage:** Tested by changing the location of the user for various states and cities.

**Additional Comments:** Null

### 3 Integration Testing

#### 1. Blood Bank update blood component and Search Blood

**Module Details:** Conducted tests by adding various new blood units using the update blood document. Tested for each variation of blood type possible, considering the details that were allowed to be specified in the updation component.

**Test Owner:** Nibir Baruah

**Test Date:** 25-3-2023

**Test Results:** Got consistent results as desired, as the updated details were visible in the search blood page.

**Additional Comments:** None

#### 2. Blood Bank add Blood Camp and Search Donation Camp

**Module Details:** Tested by adding different types of blood banks using the Add Blood Bank page. Tried all types of updates that could be done like range of dates, location description, etc.

**Test Owner:** Nibir Baruah

**Test Date:** 26-03-2023

**Test Results:** Got consistent results in the Search Donation Camp page.

**Additional Comments:** None

## 4 System Testing

**1. Requirement: (3.2.1.1)** The system shall allow the donors to search for nearby blood camps.

**Test Owner:** Harsh Patel

**Test Date:** 22/03/2023

**Test Results:** The donors are able to search for blood camps according to their state and city and all blood camp in that state and city are shown.

**Additional Comments:** Null

**2. Requirement: (3.2.1.2)** The system shall allow the blood banks to update their blood details.

**Test Owner:** [Tester's name]

**Test Date:** 22/03/2023

**Test Results:** Blood Banks can update the blood component details, which is also shown while searching for blood components.

**Additional Comments:** Null

**3. Requirement: (3.2.1.3)** The system shall allow the patients to search for the blood components.

**Test Owner:** [Tester's name]

**Test Date:** 22/03/2023

**Test Results:** The patients are able to search for specific blood components and get the details of the blood bank where it is available.

**Additional Comments:** Null

## 5 Conclusion

### *How Effective and exhaustive was the testing?*

The software was tested effectively and exhaustively at the correct times. Unit testing was helpful for removing bugs during the initial period and integration testing made sure all the components interacted together in the required way. The automatic testing is still in progress, but the manual testing was thorough.

### *Which components have not been tested adequately?*

Manual testing was done to the complete extent and for all features adequately. Some components have not been tested adequately in automatic testing yet.

### *What difficulties have you faced during testing?*

We faced difficulty in doing automated integration testing because of the high complexity of the code in some of the views. Automated unit testing was mostly completed.

### *How could the testing process be improved?*

The testing process will become easier once the automated tests are completed and more thorough. Because the current website does not have many web pages/ functionalities, it is still easily testable using manual testing. However, automating the testing allows us to test the software much faster and remove human error.



## Appendix A - Group Log

*<Please include here all the minutes from your group meetings, your group activities, and any other relevant information that will assist in determining the effort put forth to produce this document>*

Weekly meetings to discuss division of work.