

A
Project Report
On
“Blood Donation System”

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Under the Supervision of
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Submitted to



Information Technology Department
DR.S & S.S. GHANDHY COLLEGE OF ENGINEERING &
TECHNOLOGY, SURAT

GUJARAT TECHNOLOGY UNIVERSITY

May 2023



CERTIFICATE

This is to certify that project work embodied in this report entitled “**Blood Donation System**” was carried out by **Vadoliya Keval K.(206120316020)**, **Baisane Hitesh K.(206120316041)**, **Gavhale Hari L.(206120316049)** at **Dr. S & S. S. Gandhi College of Engineering & Technology, Surat.**

For partial successful completion of **Project-II (3361606)** of **Semester-6 Diploma engineering in Information Technology** to be awarded by Gujarat Technological University. This project work has been carried out under my supervision and is to the satisfaction of the department.

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Place: Surat

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DECLARATION OF ORIGINALITY

We hereby certify that we are the sole author of this project and that neither any part of this work nor the whole work has been submitted for a degree to any other University or Institution.

We certify that, to the best of our knowledge, our work does not infringe upon anyone's copyright nor violate any proprietary rights and that any ideas, techniques, quotation, or any other material from the work of other people included in our report or otherwise, are fully acknowledged in the accordance with the standard referencing practices.

We declare that this is a true copy our report, including any final revisions, as approved by our supervisor.

Date:

Place: Surat

Yours Sincerely,

Vadoliya Keval K.(206120316020)

Baisane Hitesh K. (206120316041)

Gavhale Hari L. (206120316049)

ACKNOWLEDGEMENT

The success and final outcome of this project required a lot of guidance and assistance from many people and we are extremely privileged to have got this all along the completion of our project. All that we have done is only due to such supervision and assistance and we would not forget to thank them.

We heartily thank our internal project guide, **Mr. Umang D. Shukla (Lecturer in I.T. Department)**, for his guidance and suggestions during this project work. We would not forget to remember **Mr. Manish D. Patel** for his encouragement and more over for his timely support and guidance till the completion of our project work. The project would not have been successfully completed without continuous support, motivation extended by our colleagues and friends who were always with us whenever we needed.

We are thankful to and fortunate enough to get constant encouragement, support and guidance from all Teaching staffs of **I.T. Department** which helped us in successfully completing our project work.

Last but not least, thanks to **Dr. S & S. S. Ghandhy College of Engineering & Technology** for providing us the platform to represent the project.

Yours Sincerely,

Vadoliya Keval K. (206120316020)

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Abstract

The **Blood Donation System** is an android application that provides an interface to donating & receiving blood with help of smart mobile phones and also updates the user about nearby Blood donation camps. Using this application, doner can donate blood in blood banks and also arrange blood donation camping with help of NGOs. This application is very usefully because any patients who want get blood in emergency then they can also find required blood. This application is also provide services to help to donate organ. In which user can get info about nearby Hospitals which procceds Organ Donation.

PROJECT PROFILE:

Project Title:	Blood & Organ Donation System
Project Type:	Android Mobile Application
Front-End:	Android Framework, HTML, CSS
Operating System:	Android 7.1.1+
Back-side Language:	Java, PHP, JavaScript
DataBase:	Firebase (Realtime , Fire Storage)
Project Guide:	Umang D. Shukla
Submitted By:	Vadoliya Keval K. (206120316020) Baisane Hitesh K. (206120316041) Gavhale Hari L. (206120316049)
Submitted To:	Dr. S & S.S. Ghandhy College of Engineering & Technology, Surat

Table of Contents

Certificate	I
Declaration of Originality	II
Acknowledgement	III
Abstract	IV
Project Profile	V
Chapter-1 Introduction.....	1
1.1 Specification	2
1.2 Overview of languages	2
1.2 Scope of the project	8
Chapter-2 System Requirement study	9
2.1 Problem of existing system.....	10
2.2 Requirement of proposed system.....	10
2.3 Project Life Cycle Model.....	11
2.4 Software Requirement Specification	14
Chapter-3 System Design.....	16
3.1 E-R Diagram	17
3.2 Data Flow Diagram	18
3.3 Data Dictionary	20
Chapter-4 UML	23
4.1 Use case Diagram	24
4.2 Activity Diagram	25
Chapter-5 GUI/Application Interface	26
5.1 User Side	27
5.2 Blood Bank Side	34
5.3 Admin Side	36
Chapter-6 Testing	41
6.1 User Side Test Case	42
6.2 Blood Bank Side Test Case	45
6.3 Admin Side Test Case.....	45

Chapter-7 Advantages, Limitation & Future Enhancements	47
7.1 Advantages.....	48
7.2 Limitation.....	48
7.3 Future Enhancements.....	48
Chapter-8 Conclusion	49
8.1 Conclusion	50
Bibliography.....	51

List of Figures

Fig 2.1 Project Life Cycle Model(Agile Model)	12
Fig 3.1 Proposed systems E-R Diagram.....	17
Fig 3.2 Context Level Diagram.....	18
Fig 3.3 Level-1 Dataflow Diagram	18
Fig 3.4 Level-2 Dataflow Diagram	19
Fig 4.1 Use case Diagram.....	24
Fig 4.2 Activity Diagram.....	25

List of Tables

Table 3.1 Data Dictionary for User	20
Table 3.2 Data Dictionary for Camp	20
Table 3.3 Data Dictionary for NGO	21
Table 3.4 Data Dictionary for Blood Bank	21
Table 3.5 Data Dictionary for Organ Hospital	21
Table 3.6 Data Dictionary for Blood Data(Blood Bank)	22
Table 3.7 Data Dictionary for Admin	22
Table 6.1 User Side Test Case.....	42
Table 6.2 Blood Bank Side Test Case	45
Table 6.3 Admin Side Test Case	45

Chapter 1

Introduction

1.1 Specifications:

Project Definition:

Blood Donation system is An android application where user can get information about nearby blood banks and camps so he\she can easily donate blood in nearby camps & blood banks and can receive blood easily in emergency situations and user can also arrange blood donation camp. blood & organ donation becomes easier with this system because of easy pin code searching method of these blood banks, camps and organ hospitals.

1.2 Overview Of Languages:

In this Project Android Framework with Java is Used for Main Mobile App & HTML,CSS and PHP are used for other Admin, BloodBank web site. Android Framework and this website utilizes Firebase Realtime Database as primary database for storing and used Firebase Messaging API for firing notifications in app. Google Map API is also used from google cloud console.

❖ **Android Framework:**



The Android framework is a robust software stack that serves as the foundation for developing applications on the Android operating system. It provides a comprehensive set of tools, libraries, and APIs that facilitate the creation of diverse and feature-rich mobile applications. The framework includes essential components such as activity and fragment management, user interface rendering,

resource handling, content providers for data sharing, and inter-component communication mechanisms. It also offers built-in support for various hardware features like cameras, sensors, and location services, as well as access to a vast array of services like networking, storage, and multimedia. The Android framework empowers developers to build highly interactive and versatile applications by leveraging its extensive set of functionalities and resources.

❖ Java



Java is a widely-used, general-purpose programming language known for its platform independence and versatility. Developed by Sun Microsystems (now owned by Oracle), Java is designed to be write once, run anywhere (WORA), meaning that code written in Java can run on any platform that has a Java Virtual Machine (JVM). It is an object-oriented language with a strong focus on simplicity, readability, and robustness. Java offers a rich set of libraries and APIs, making it suitable for a wide range of applications, including desktop, web, mobile, and enterprise development. It provides features like automatic memory management, exception handling, and multithreading support, enabling developers to build scalable and reliable applications. With its extensive ecosystem, vast community support, and cross-platform compatibility, Java remains a popular choice for developing robust and portable software solutions.

❖ **Firebase Realtime Database and Firebase Storage:**



Realtime Database:

Firebase Realtime Database is a NoSQL cloud-hosted database that provides real-time synchronization and data persistence for web and mobile applications. It offers a JSON-based structure to store and retrieve data, enabling developers to build collaborative and reactive applications. The database automatically synchronizes data across connected devices in real-time, allowing for instant updates and seamless offline functionality. It also supports powerful querying and filtering capabilities, event-based triggers, and client-side listeners for efficient data manipulation and real-time updates. Firebase Realtime Database simplifies the development process by handling complex data synchronization tasks, enabling developers to focus on building engaging and dynamic applications.

Firebase Storage:

Firebase Cloud Storage, also known as Firebase Storage, is a cloud-based storage service offered by Firebase. It provides developers with a reliable and scalable solution for storing and serving user-generated content in their applications. With Firebase Storage, developers can easily upload and download files, manage storage, and secure data with built-in authentication and access control. It seamlessly integrates with other Firebase services, making it a convenient choice for managing files in Firebase-powered applications.

❖ HTML:

The Hypertext Markup Language or HTML is the standard markup language for documents designed to be displayed in a web browser. HTML can embed programs written in a scripting language such as JavaScript, which affects the behaviour and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), former maintainer of the HTML and current maintainer of the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997. A form of HTML, known as HTML5, is used to display video and audio.

❖ PHP:

PHP is a general-purpose scripting language geared toward web development. PHP code is usually processed on a web server by a PHP interpreter implemented as a module, a daemon or as a Common Gateway Interface (CGI) executable. On a web server, the result of the interpreted and executed PHP code – which may be any type of data, such as generated HTML or binary image data – would

form the whole or part of an HTTP response. Various web template systems, web content management systems, and web frameworks exist which can be employed to orchestrate or facilitate the generation of that response. Additionally, PHP can be used for many programming tasks outside the web context, such as standalone graphical applications and robotic drone control. PHP code can also be directly executed from the command line.

❖ **JavaScript:**



JavaScript is a versatile and widely-used programming language primarily used for web development. It is a client-side scripting language that runs directly in web browsers, allowing developers to create dynamic and interactive web pages. JavaScript offers a wide range of features and capabilities, including manipulating HTML and CSS, handling user interactions, performing asynchronous operations, and managing data. It is known for its flexibility and ease of use, making it accessible to both beginner and experienced developers. JavaScript is also used on the server-side with frameworks like Node.js, enabling developers to build full-stack applications. With its extensive ecosystem of libraries and frameworks, JavaScript empowers developers to create engaging web experiences and has become a fundamental technology in modern web development.

❖ CSS:



Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML or XML (including XML dialects such as SVG, MathML or XHTML). CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript. CSS is designed to enable the separation of presentation and content, including layout, colours, and fonts. This separation can improve content accessibility; provide more flexibility and control in the specification of presentation characteristics; enable multiple web pages to share formatting by specifying the relevant CSS in a separate .CSS file, which reduces complexity and repetition in the structural content; and enable the .CSS file to be cached to improve the page load speed between the pages that share the file and its formatting.

1.3 Scope of Project:

- By the help of Blood Donation system people can get help to donate-receive blood & donate organ easily.
- Blood Banks can easily update their Blood Data anytime.
- People can see available Blood Banks, Organ Hospitals in their individual sections.
- People can also see the available blood camps in the 'Camp' section.
- People can also see the location of Camps, Blood Banks, Organ Hospitals on Map.
- People Can call these Camps, Blood Banks, Organ Hospitals if requirement occurs.
- When user need blood he/she can find available Camp or blood bank according to their need simply by Pin Code of Area.
- User can see available Blood Quantity in Blood Banks of their requirements updated by Blood Banks itself.
- User can also create the Camps for Blood Donation.

Chapter 2

Requirement Analysis

2.1 Problem of Existing System:

- Currently there is no available system for blood and organ donation.
- If people want to donate blood so there is no proper guideline how and where to donate blood.
- Same for receiving blood people need to call every available blood bank manually & collect information. That is time consuming and usually patient don't have much time.
- And if there is blood bank available nearby but patient's relative doesn't know, so that's the big problem for the receiver's life because in these cases every minute is important.
- Many times, applicable blood doner is available nearby but there is no system that tell them who need blood or who can donate blood.
- Organ donation is very under rated system, very few people are known about it & if someone want to donate their organ, they don't know the procedure or their family member don't have idea that he/she was want to donate organ.

2.2 Requirement of Proposed System:

- This System is efficient way to remind user for donating blood with notifications
- In this System, User informed about all camp related things.
- this system provides user an interface to donate Blood easily in nearby camp and blood banks.
- In the time of emergency user can receive blood by nearby blood bank.
- User able to get Blood Data Info of Blood Banks very easily.
- User able to locate, call Camp, Blood Banks, Organ Hospitals easily.
- User able to create Blood Donation camp easily with help of NGOs.

2.3 Project Life Cycle Model:

Agile Model:

The meaning of Agile is swift or versatile "Agile process model" refers to a software development approach based on iterative development. Agile methods break tasks into smaller iterations, or parts do not directly involve long term planning. The project scope and requirements are laid down at the beginning of the development process. Plans regarding the number of iterations, the duration and the scope of each iteration are clearly defined in advance. Each iteration is considered as a short time "frame" in the Agile process model, which typically lasts from one to four weeks. The division of the entire project into smaller parts helps to minimize the project risk and to reduce the overall project delivery time requirements. Each iteration involves a team working through a full software development life cycle including planning, requirements analysis, design, coding, and testing before a working product is demonstrated to the client.

The blood donation Android project followed an Agile development approach, characterized by its iterative and adaptive nature. The development process involved learning from tutorials, watching YouTube videos for additional guidance, and utilizing ChatGPT for problem-solving and support. This approach allowed for continuous learning, flexibility, and the ability to adapt the project requirements and implementation based on the evolving needs and challenges encountered during development.

Phases of Agile Model:

Following are the phases in the Agile model are as follows:

- 1) Requirements gathering
- 2) Design the requirements
- 3) Construction/ iteration
- 4) Testing/ Quality assurance
- 5) Deployment
- 6) Feedback

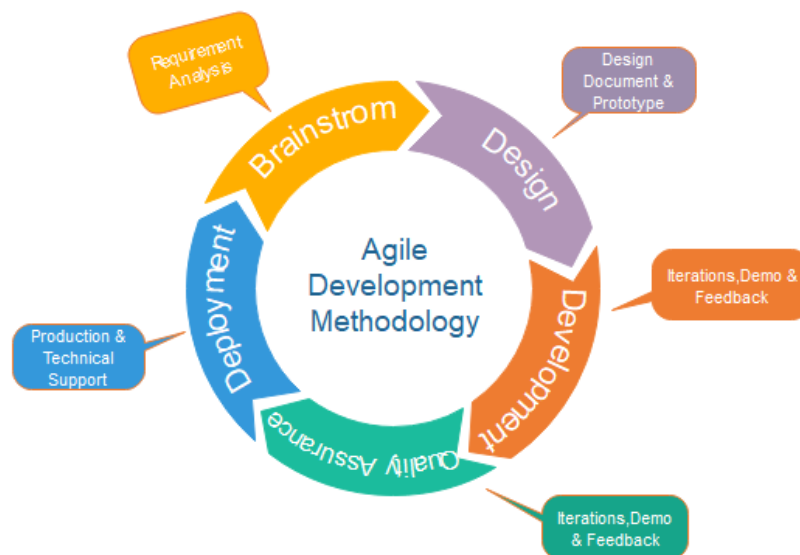


Fig. Agile Model

1) Requirements gathering:

In this phase, you must define the requirements. You should explain business opportunities and plan the time and effort needed to build the project. Based on this information, you can evaluate technical and economic feasibility.

2) Design the requirements:

When you have identified the project, work with stakeholders to define requirements. You can use the user flow diagram or the high-level UML diagram to show the work of new features and show how it will apply to your existing system.

3) Construction/ iteration:

When the team defines the requirements, the work begins. Designers and developers start working on their project, which aims to deploy a working product. The product will undergo various stages of improvement, so it includes simple, minimal functionality.

4) Testing:

In this phase, the Quality Assurance team examines the product's performance and looks for the bug.

5) Deployment:

In this phase, the team issues a product for the user's work environment.

6) Feedback:

After releasing the product, the last step is feedback. In this, the team receives feedback about the product and works through the feedback

2.4 Software Requirement Specification (SRS):

Requirements:

There are two types of Requirements:

1. Functional analysis.
2. Non- Functional analysis.

❖ Functional analysis:

1. User side:

- User module that uses the android app.
- User can create account & login app by help of username.
- User can get info about Blood Banks and their Blood Data easily.
- User can create camp request. & Visit other user's created camp.
- User can also search the Camp, Blood banks, Organ Hospitals nearby simply with just Pin Code of Area.
- User can contact, locate any Camp, Blood Bank, Organ Hospitals easily.
- User can Update his/her created camp info anytime easily.

2. Admin side:

- Admin module that uses web application.
- Admin can manage all user pages.
- Admin can see the total number of users, no of user by blood group.
- Admin can Add new Blood Banks, Organ Hospitals, Camps, Helper NGOs anytime.
- Admin can Update or Delete Blood Banks, Organ Hospitals, Camps Info when required.
- Admin approves the camp requests that posted by the user, so there is no spamming problem.

3. Blood Bank side:

- Blood Bank module that uses web application.
- Blood Banks can modify their Blood Data anytime when they wanted.
- Blood Banks can Modify their info in Profile.

❖ Non-Functional analysis:

- **Availability:**
Any one can donate and receive blood & donate organ with help of this app.
- **Security:**
User's info about his\her blood & organ and their donation will be secure
- **Reliability:**
Blood Donation system must be reliable for use that can user believe on the system.
- **Scalability:**
The scale of the Blood Donation system is increment by the users will increase.
- **Flexibility:**
Blood Donation system should be able to adapt the future updates.
- **Maintainability:**
Blood Donation system should be able to maintain easily and support changes that are done in the future.

Chapter 3

System Design

3.1 E-R Diagram:

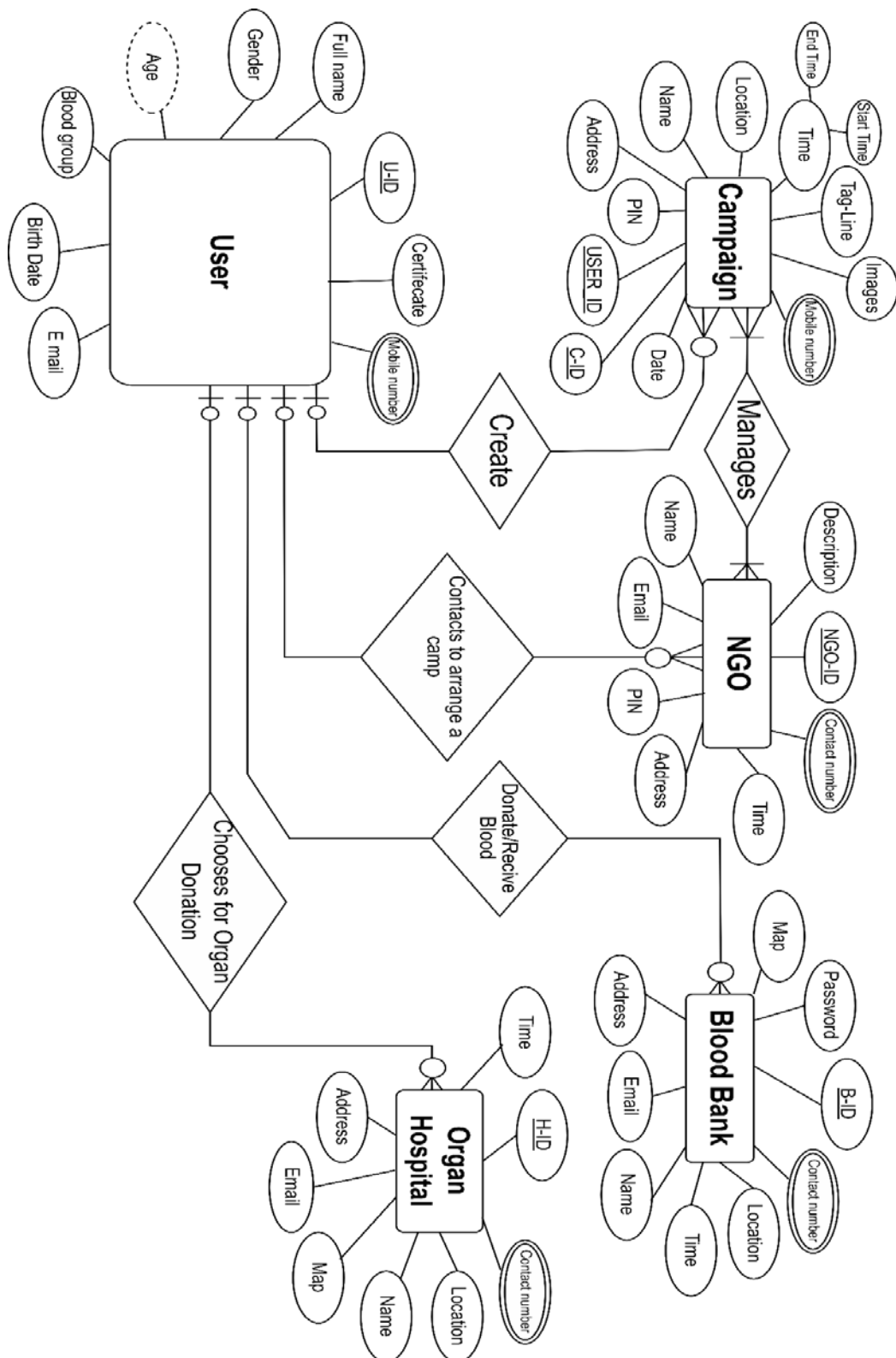
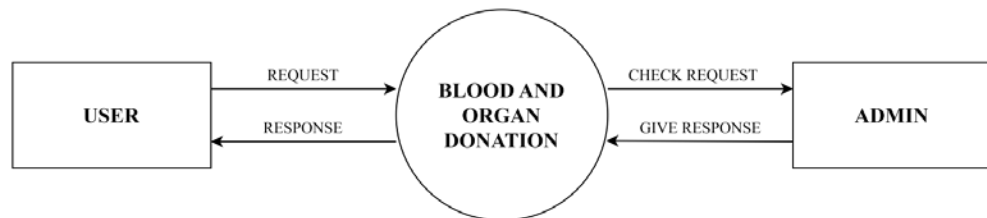


Figure 3.1 Proposed systems E-R Diagram

3.2 Data Flow Diagram (DFD):

❖ Zero level DFD:

LEVEL 0



[Context Level/Zero Level DFD]

Figure 3.2 Context Level Diagram

❖ 1st level DFD:

LEVEL 1

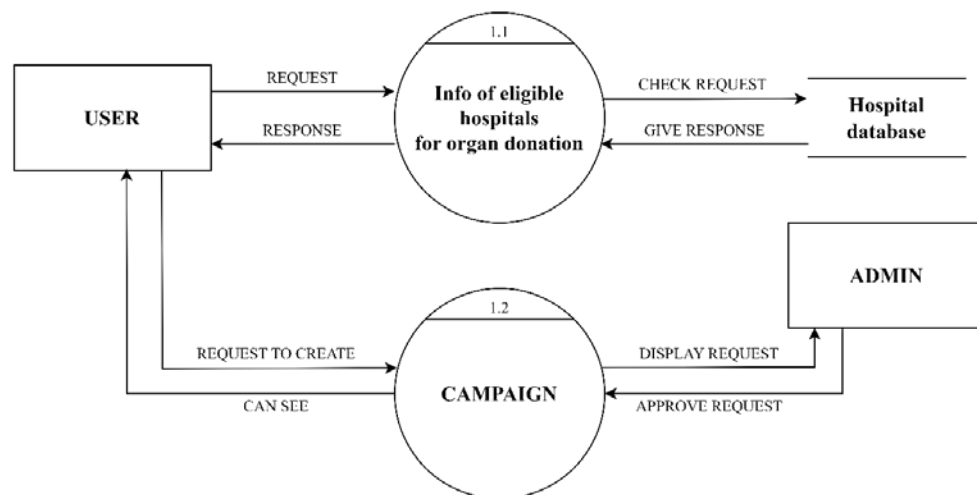


Figure 3.3 Level-1 Dataflow Diagram

❖ 2nd level DFD:

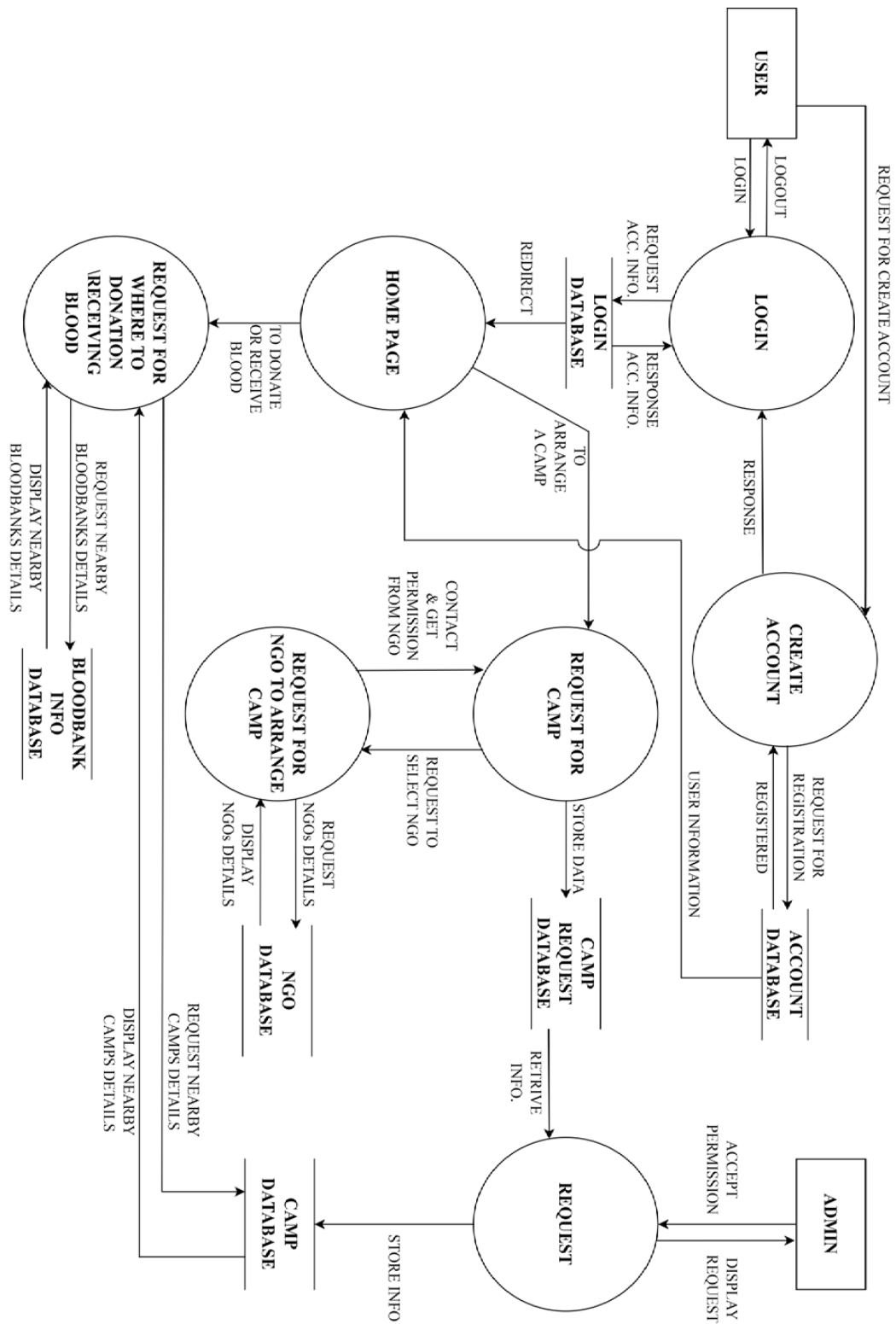


Figure 3.4 Level-2 Dataflow Diagram

3.3 Data Dictionary:

3

User			
No.	Name	Datatype	Description
1	userid	String	User ID of common user
2	Full_Name	String	Full Name of User
3	Gender	String	Gender of User
4	Birth_date	String	Birth Date of User
5	BloodGroup	String	Blood Group of User
6	EmailID	String	Email ID of User
7	Phone_no	Number	Phone number of User
8	Donate_Eligible_Certi	String	URL of Firebase storage where PDF of Blood Donation Eligible Certificate of User is uploaded
9	Can_donate_blood	Boolean	User is eligible for blood donation or not
10	Password	String	Password for User Log In

Table 3.1

Camp			
No.	Name	Datatype	Description
1	id	String	Camp ID of Blood Donation Camp
2	name	String	Name of Camp
3	mono	Number	Contact Number of Camp
4	tag	String	Tag Line of Camp
5	date	String	Date of Camp
6	time	String	Time of Camp
7	map	String	Map Co-ordinates of Camp
8	NGO_Id	String	Helper NGO Id of Camp
9	address	String	Address of Camp
10	pin	Number	Pin Code of Camp
11	image	String	URL of Firebase storage where Image of Camp is uploaded
12	userid	String	User id of Camp Creator

Table 3.2

NGO			
No.	Name	Datatype	Description
1	id	String	Id of NGO
2	name	String	Name of NGO
3	mono	Number	Contact Number of NGO
4	address	String	Address of NGO
5	email	String	Email Id of NGO
6	pin	Number	Pin Code of NGO
7	Img_ngo	String	URL of Firebase storage where Image of NGO is uploaded

Table 3.3

Blood Bank			
No.	Name	Datatype	Description
1	userid	String	User Id of Blood Bank
2	name	String	Name of Blood Bank
3	mono	Number	Contact Number of Blood Bank
4	pin	Number	Pin Code of Blood Bank
5	address	String	Address of Blood Bank
6	map	String	Map Co-ordinates of Blood Bank
7	email	String	Email Id of Blood Bank
8	password	String	Password for Blood Bank Log In
9	time	String	Time of Blood Bank Open hours

Table 3.4

Organ Hospital			
No.	Name	Datatype	Description
1	id	String	Id of Organ Donation Helper Hospital
2	name	String	Name of Hospital
3	mono	Number	Contact Number of Hospital
4	pin	Number	Pin Code of Hospital
5	address	String	Address of Hospital
6	map	String	Map Co-ordinates of Hospital
7	time	String	Time of Hospital Open hours
8	email	String	Email Id of Hospital

Table 3.5

Blood Data (Blood Bank)			
No.	Name	Datatype	Description
1	abnve	Number	Number of Packets of AB+ blood
2	abpve	Number	Number of Packets of AB- blood
3	anve	Number	Number of Packets of A+ blood
4	apve	Number	Number of Packets of A- blood
5	bnve	Number	Number of Packets of B+ blood
6	bpve	Number	Number of Packets of B- blood
7	onve	Number	Number of Packets of O+ blood
8	opve	Number	Number of Packets of O- blood

Table 3.6

Admin			
No.	Name	Datatype	Description
1	userid	String	User Id of Admin
2	password	String	Password for Admin Log In
3	mono	Number	Contact Number of Admin
4	email	String	Email Id of Admin
5	name	String	Name of Admin

Table 3.7

Chapter 4

UML

4.1 Use case Diagram:

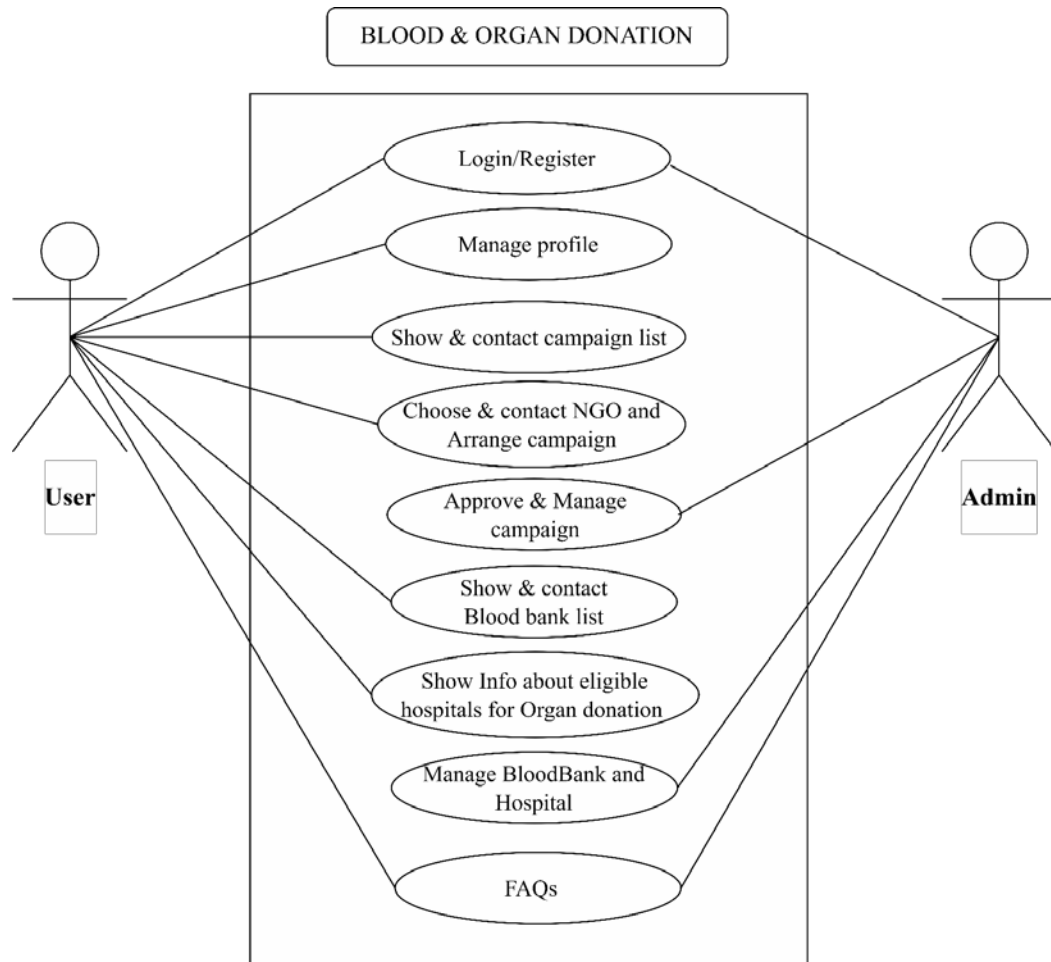


Figure 4.1 Use case Diagram

4.2 Activity Diagram:

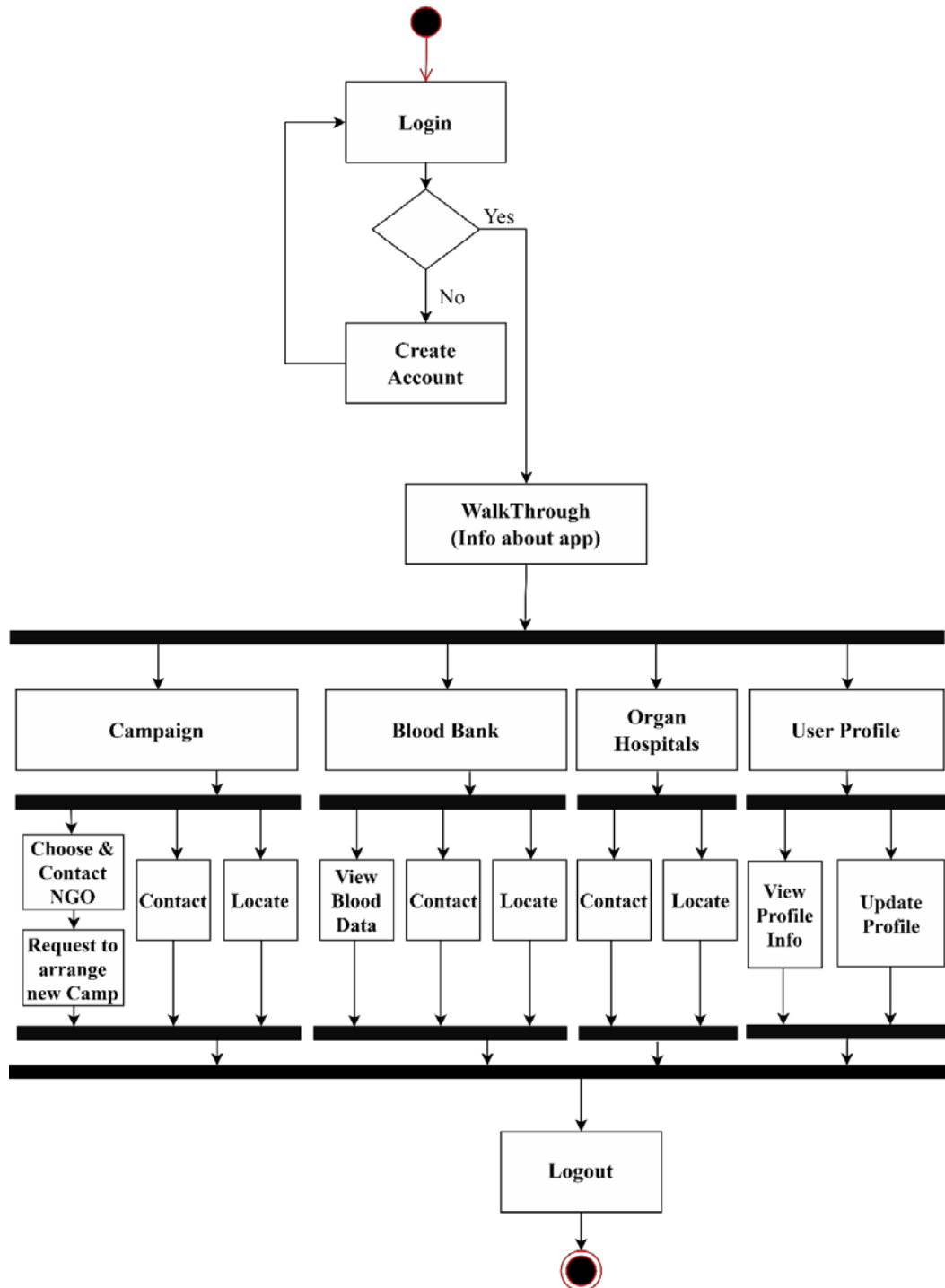


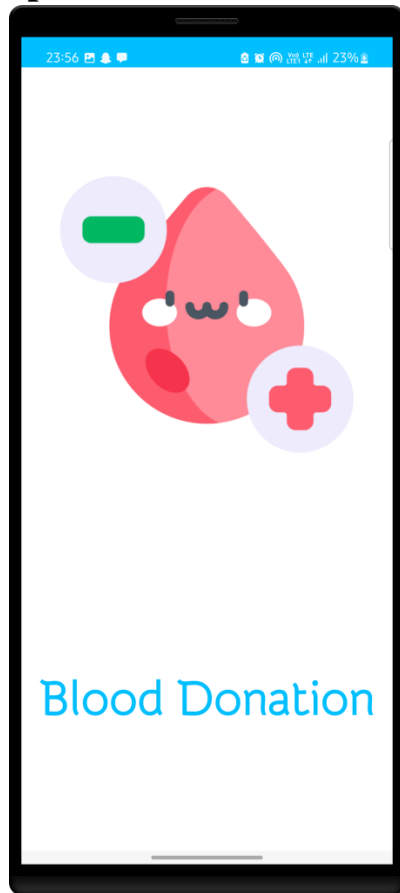
Figure 4.1 Activity Diagram

Chapter 5

GUI/Application Interface

5.1 User Side:

Splash Screen:



Registering User:

The registration form is titled 'Create Account:' and includes the following fields and options:

- Full name:** A text input field containing 'Vadoliya Keval'.
- Username:** A text input field containing 'keval@345'.
- Password:** A text input field with a password icon and a toggle for visibility.
- Email ID:** A text input field containing 'vadoliyakeval@gmail.com'.
- Contact number:** A text input field containing '9429861380'.
- Blood Group:** A dropdown menu showing 'A+'.
- Birth Date:** A date picker showing '18/03/05'.
- Choose Gender:** Three radio buttons labeled 'Male', 'Female', and 'Other', with 'Male' selected.

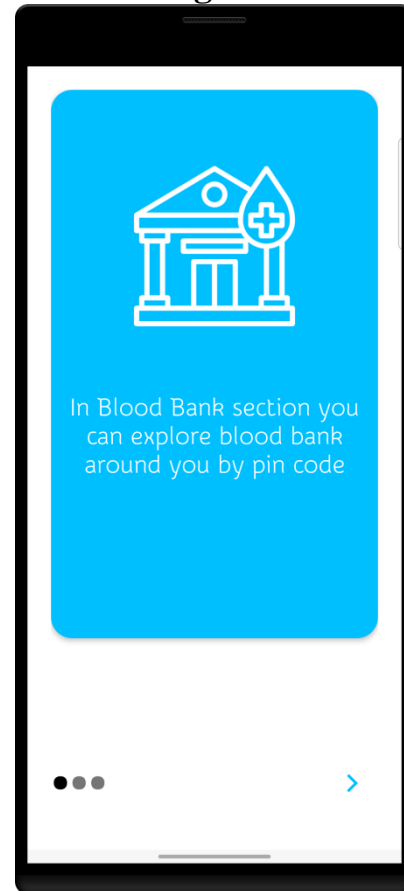
A blue button labeled 'Blood' is visible at the bottom right of the form.

Log In:

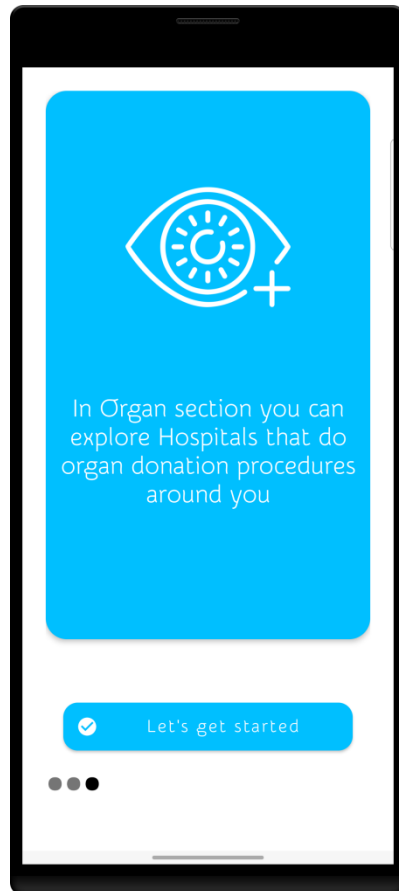
The login screen is titled 'Welcome Back' and 'Sign In To Continue'. It includes the following elements:

- Username:** A text input field containing 'keval@345'.
- Password:** A text input field with a password icon and a toggle for visibility.
- Forgot Your Password?:** A link to reset the password.
- Log In:** A blue button with a checkmark icon.
- Click Here If You Are New User:** A link to the registration page.

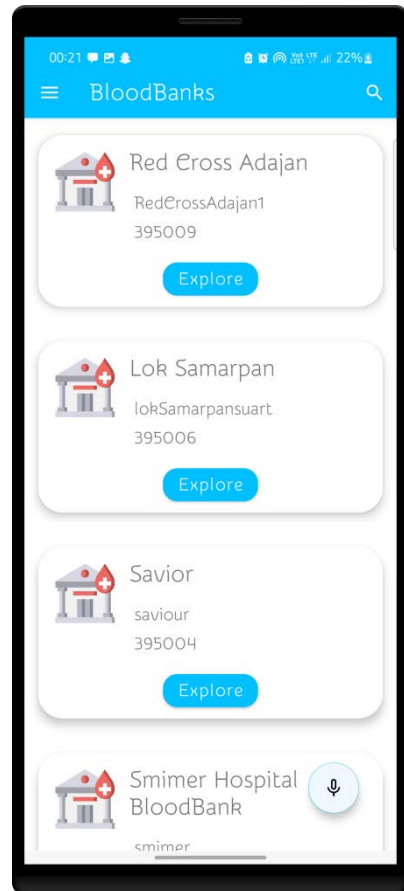
Walkthrough:



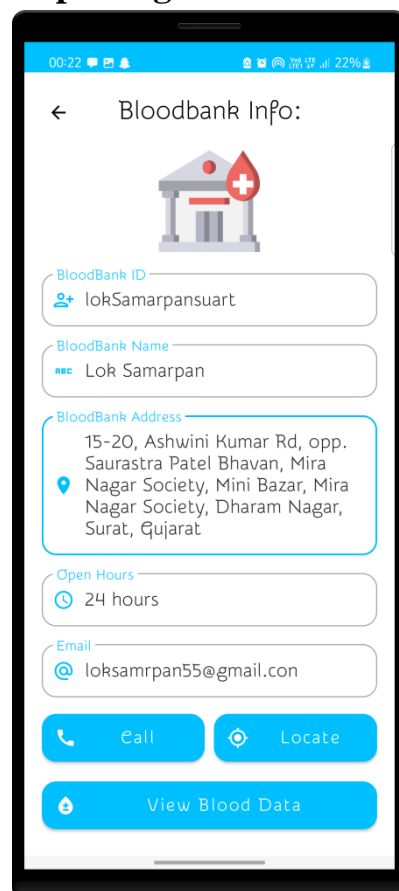
Walkthrough:



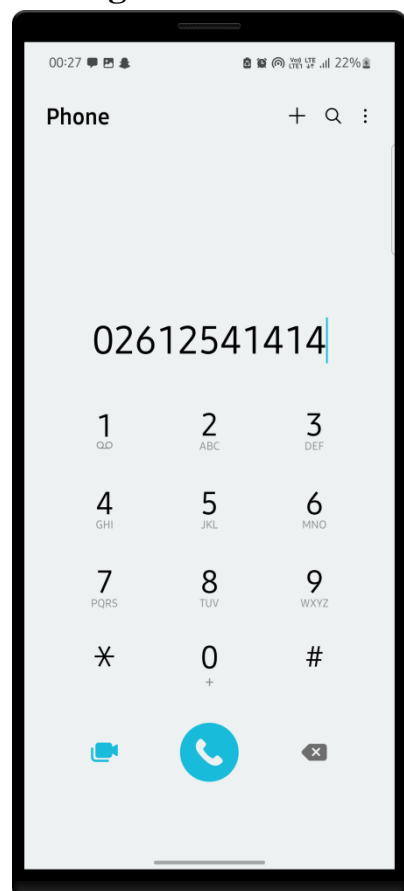
Blood Bank:



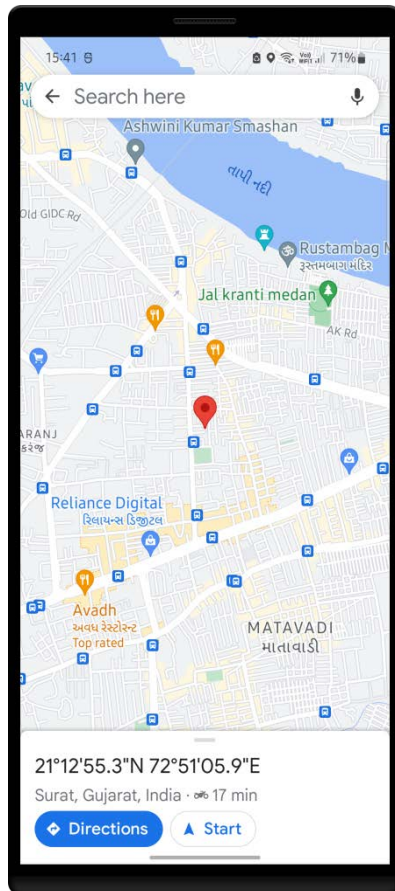
Exploring Blood Bank:



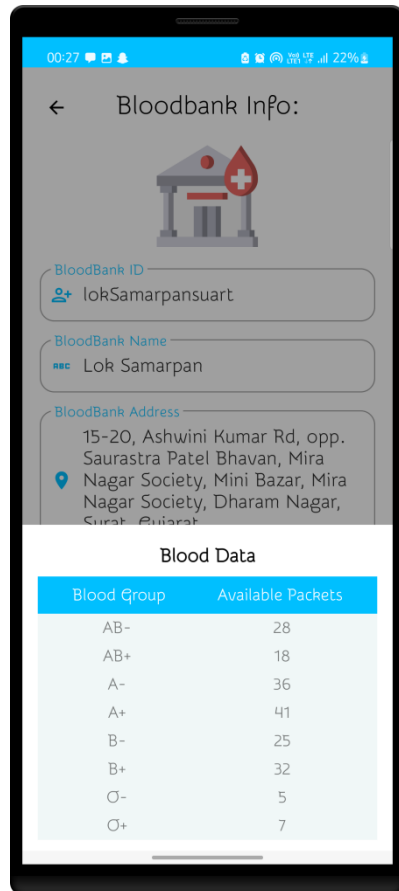
Calling Blood Bank:



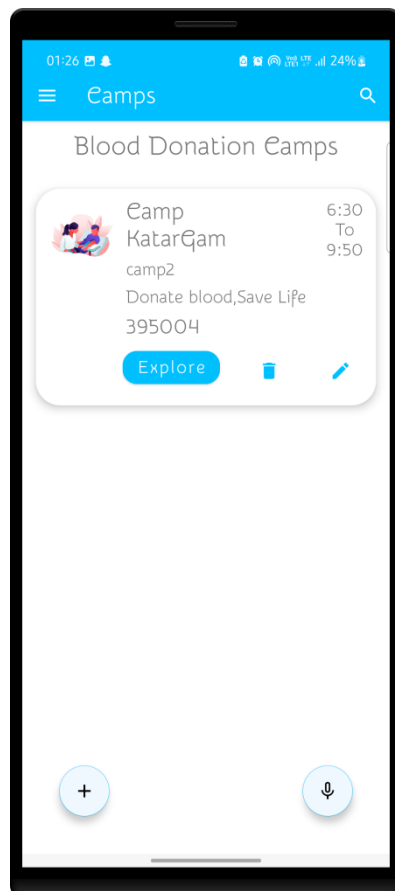
Locating Blood Bank:



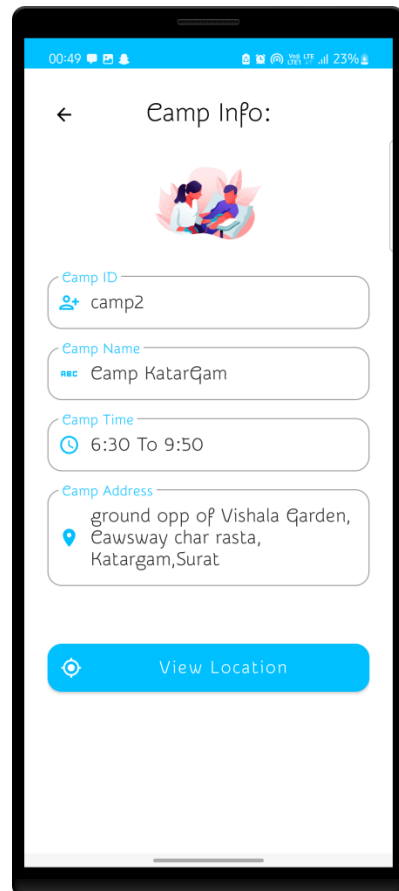
Viewing Blood Data:



Camp:



Exploring Camp:



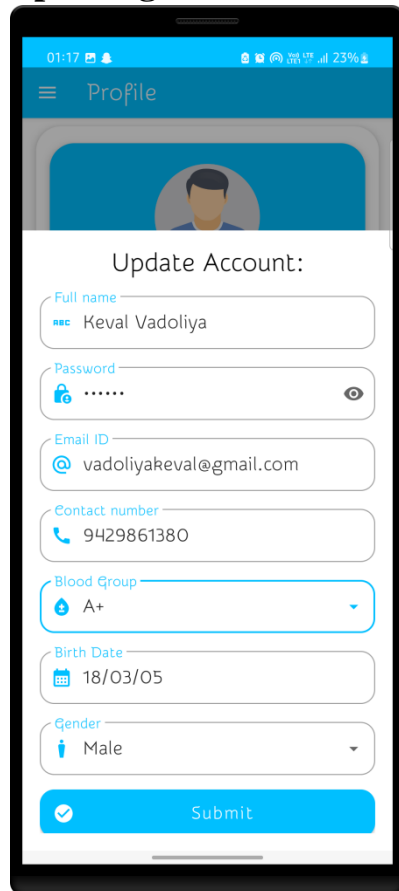
Updating Camp if logged in user created it:

Organ Hospital:

Exploring Organ Hospital:

User Profile:

Updating User Profile:



01:17 Profile

Update Account:

Full name
Keval Vadoliya

Password
.....

Email ID
vadoliyakeval@gmail.com

Contact number
9429861380

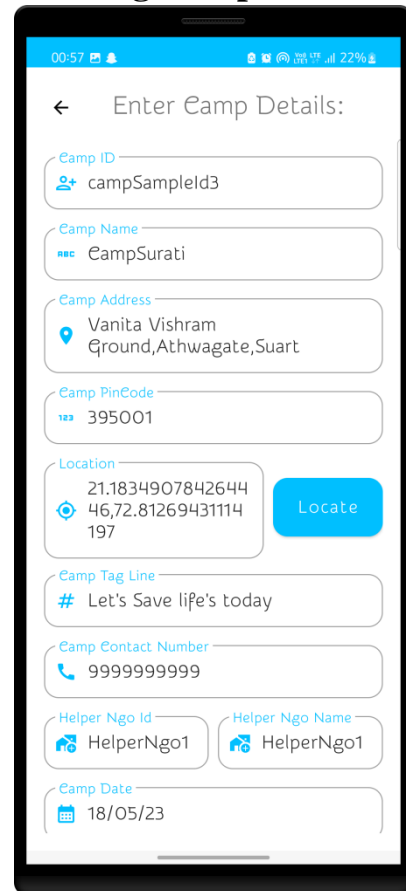
Blood Group
A+

Birth Date
18/03/05

Gender
Male

Submit

Creating Camp:



00:57 Enter Camp Details:

Camp ID
campSampleId3

Camp Name
CampSurati

Camp Address
Vanita Vishram
Ground, Athwagate, Suart

Camp PinCode
395001

Location
21.1834907842644
46.72.81269431114
197 [Locate](#)

Camp Tag Line
Let's Save life's today

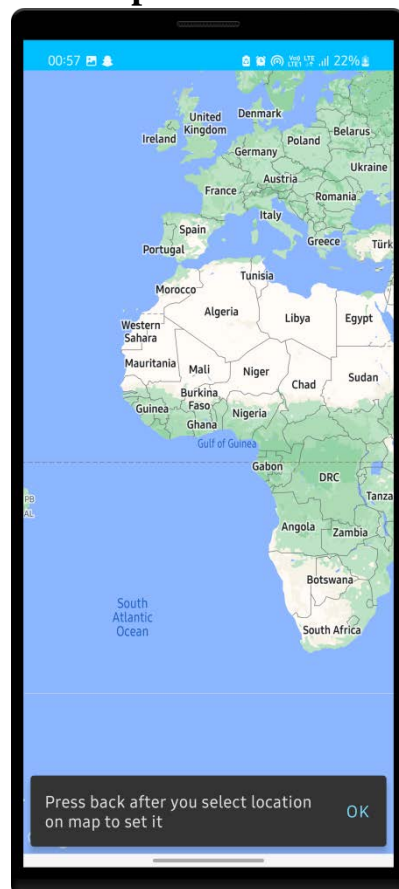
Camp Contact Number
9999999999

Helper Ngo Id
HelperNgo1

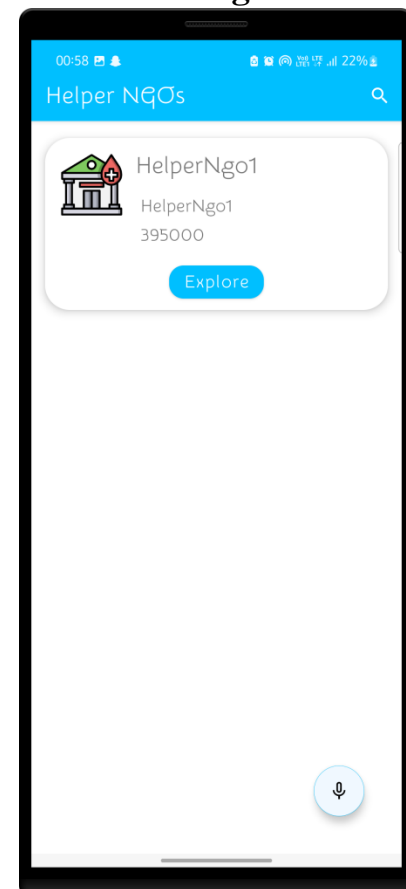
Helper Ngo Name
HelperNgo1

Camp Date
18/05/23

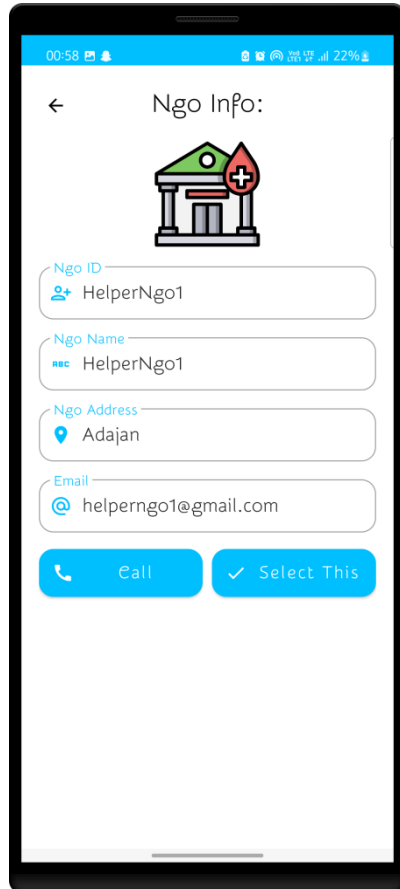
Locating Coordinates On Map:



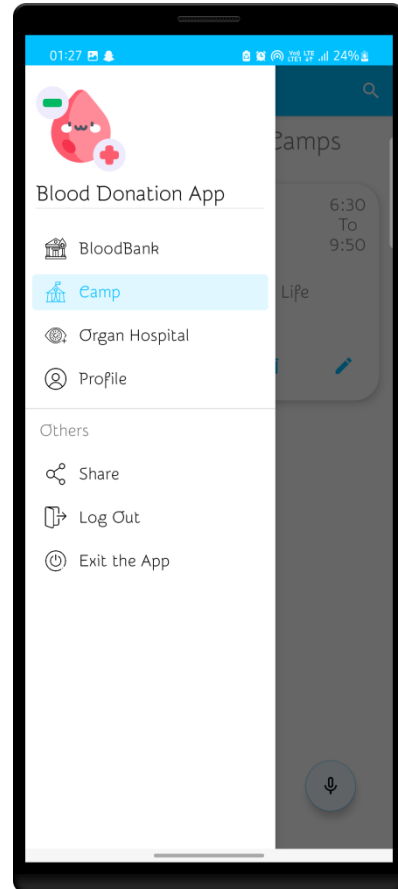
NGO Selecting:



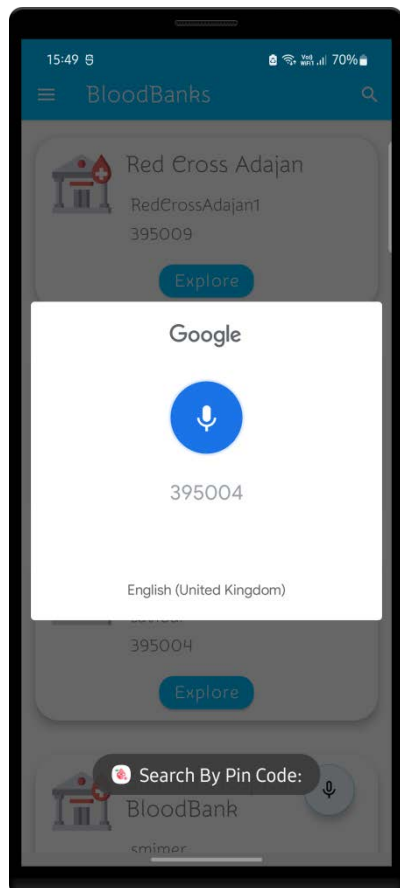
Exploring NGO to select:



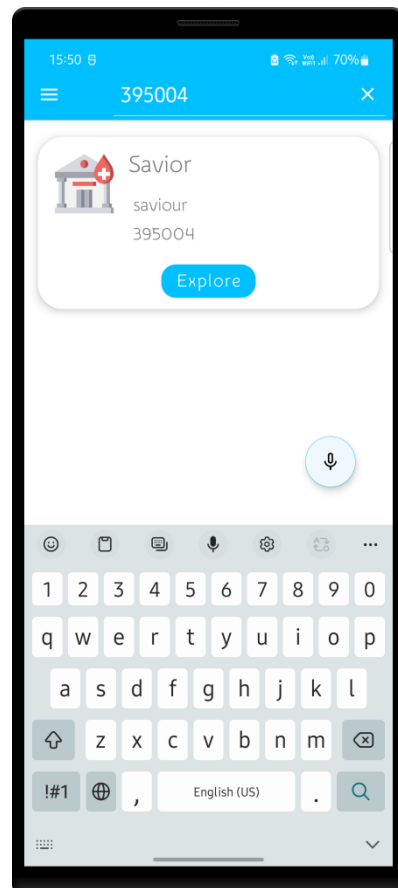
Main Menu:



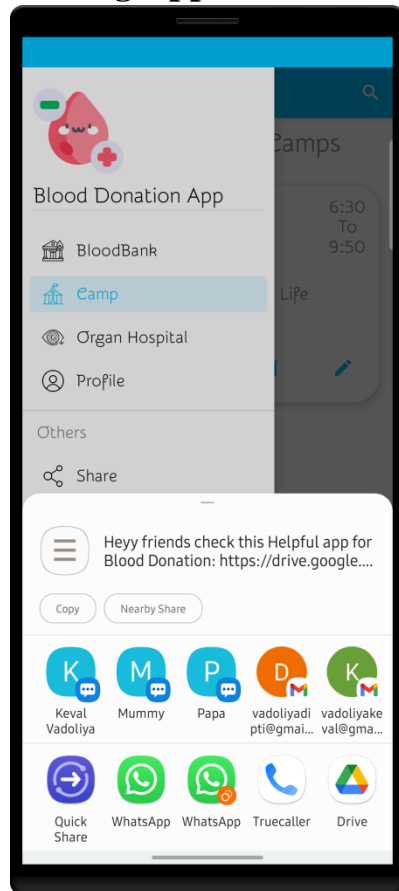
Voice Searching:



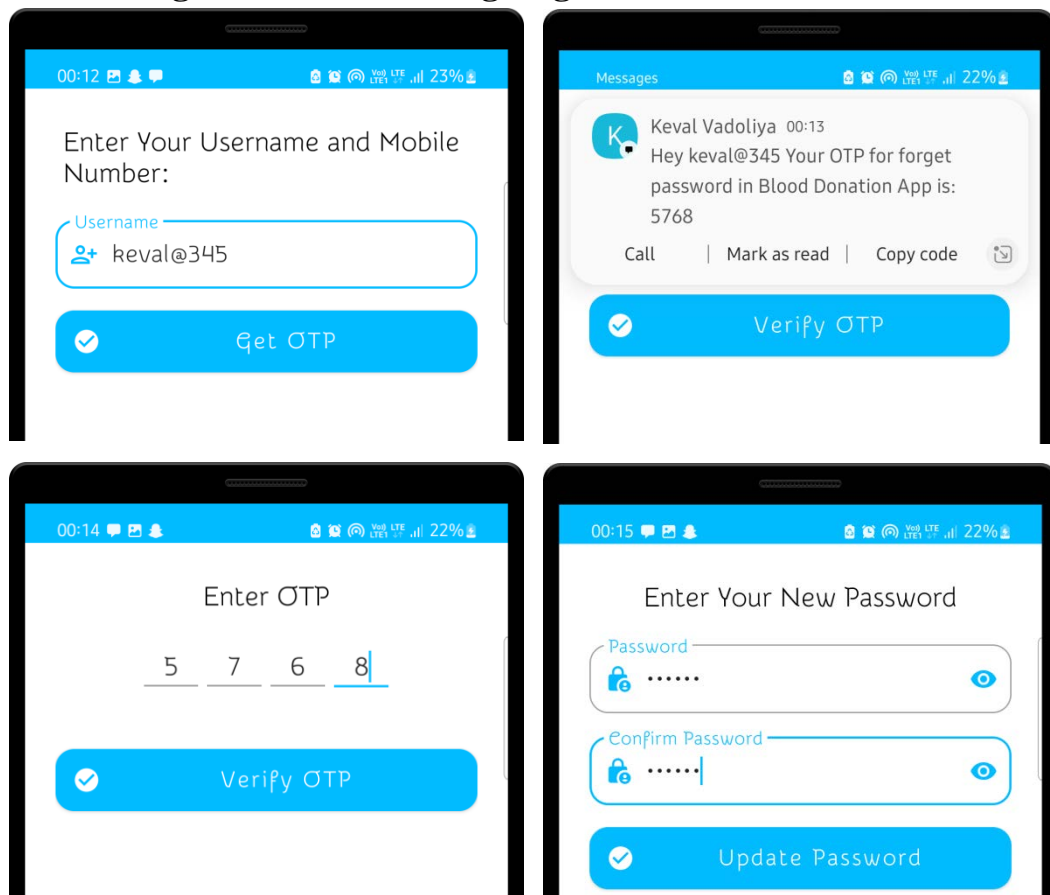
Manual Searching:



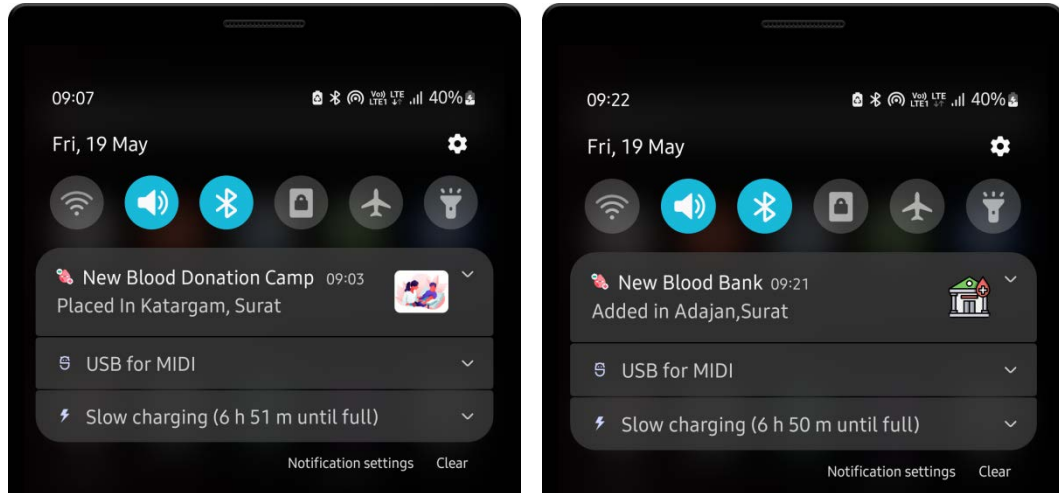
Sharing App:



When Forget Password during Login:



Notification:

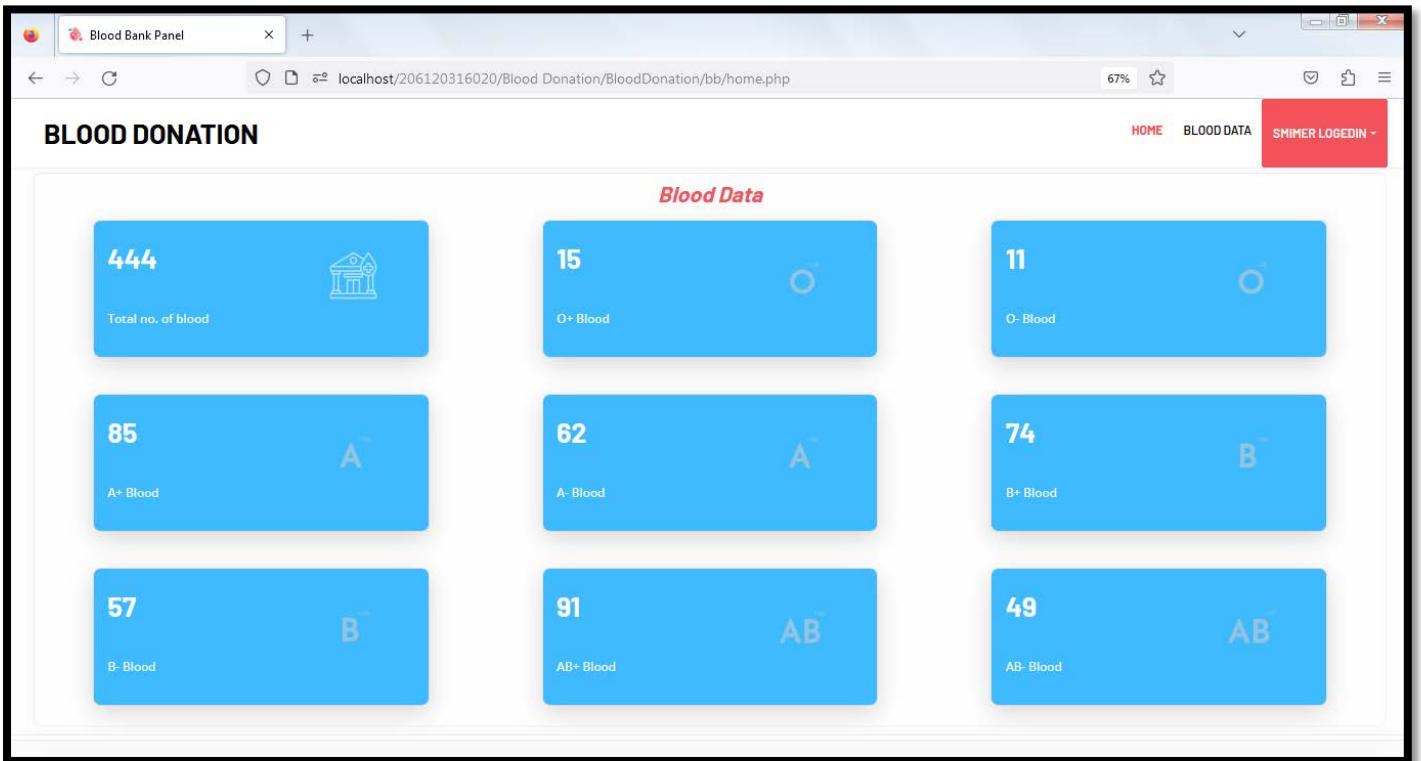


5.2 Blood Bank Side:

Log In:

The image shows a web browser window with the title 'Blood Donation Login'. The address bar shows the URL 'localhost/206120316020/Blood Donation/BloodDonation/login.php'. The page has a dark header with the text 'Blood Donation'. The main content area is a light gray background with a white login form in the center. The form has a red 'Sign in' heading, followed by 'User ID' and 'Password' labels. The 'User ID' field contains the text 'smimer'. The 'Password' field has three dots indicating a masked password. Below the fields is a red 'Login' button. At the bottom of the page, there is a footer note: '*This login page is only for Blood Bank. Normal user please refure android app'.

Home Page:



Handling Blood Data:

The screenshot shows the 'Blood Bank Panel' page for handling blood data. The page title is 'BLOOD DONATION'. The navigation bar includes 'HOME', 'BLOOD DATA', and a 'SHIMER LOGEDIN' button. The main content area is titled 'Blood Data' and contains a form for updating blood counts:

O	
O+ 15	O- 11
A	
A+ 85	A- 62
B	
B+ 74	B- 57
AB	
AB+ 91	AB- 49
<button>Save</button>	

5.2 Admin Side:

Log In:

Blood Donation Login

localhost/206120316020/Blood Donation/BloodDonation/login.php

Blood Donation

Sign in

User ID

admin

Password

.....

Login

*This login page is only for Blood Bank. Normal user please refure android app

Home Page:

Blood Donation Admin Panel

localhost/206120316020/Blood Donation/BloodDonation/admin/home.php

BLOOD DONATION

HOME USERS SERVICES F & O ADMIN LOGGED IN

5
total users

4
total blood bank

1
Active campaign

3
Not approved campaign

Active campaign

#	Name	address	pin	map	mono	tag	Image	date	time
1	Camp KatarGam	ground opp of Vishala Garden, Cawsway char rasta, Katargam, Surat	395004		7777758889	Donate blood, Save Life		16/5/2023	6:30 To 9:50

Managing Blood Bank:

#	Name	address	pin	map	email	mono	time	delete
1	Red Cross Adajan	RED CROSS BLOOD BANK, 5, Kalpana Society-2, Adajan Road, Nr shivam hotel, opp. Suzuki showroom Krishna Nagar Society, Kalpana Society Part-2, Choksi Wadi, Adajan, Surat, Gujarat	395009		support@redcrosstraining.org	18007332767	24 hours open	Delete
2	Lok Samarpan	15-20, Ashwini Kumar Rd, opp. Saurashtra Patel Bhavan, Mira Nagar Society, Mini Bazar, Mira Nagar Society, Dharam Nagar, Surat, Gujarat	395006		loksamrpan55@gmail.com	02612541414	24 hours	Delete
3	Savior	savior voluntary blood bank, shubh square first floor, gotala vadi, patelvadi road, surat, near lal darvaja, Surat, Gujarat	395004		savioursurat04@gmail.com	07487995555	24 hours open	Delete
4	Smimer Hospital BloodBank	Smimer Hospital, Bombay Market Rd, near Umarwada, Sahara Darwaja, Umarwada, Surat, Gujarat	395010		info@smimer.suratmunicipal.gov.in	02612368040	24 hours open	Delete

Adding Blood Bank:

Add new Blood Bank

Username:

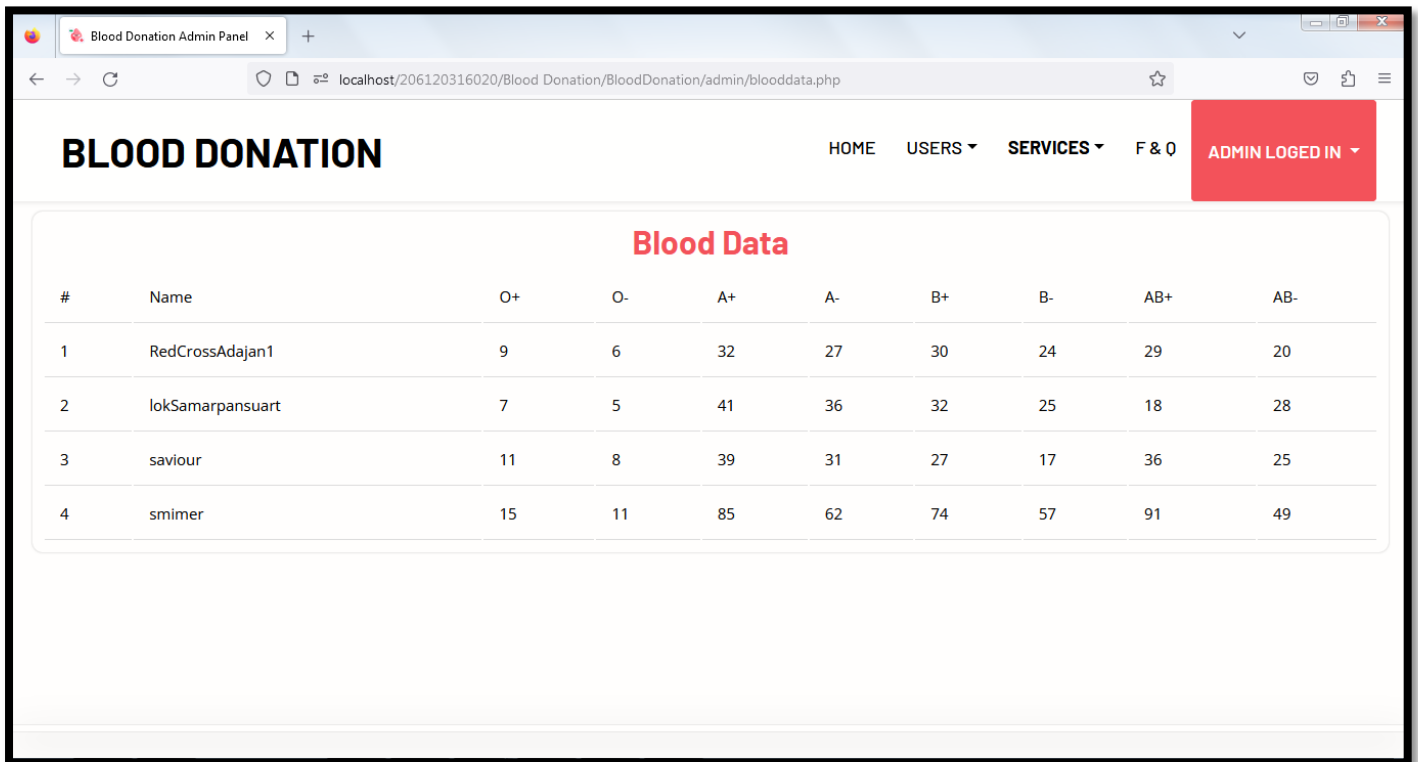
Name:

Email:

address:

map:

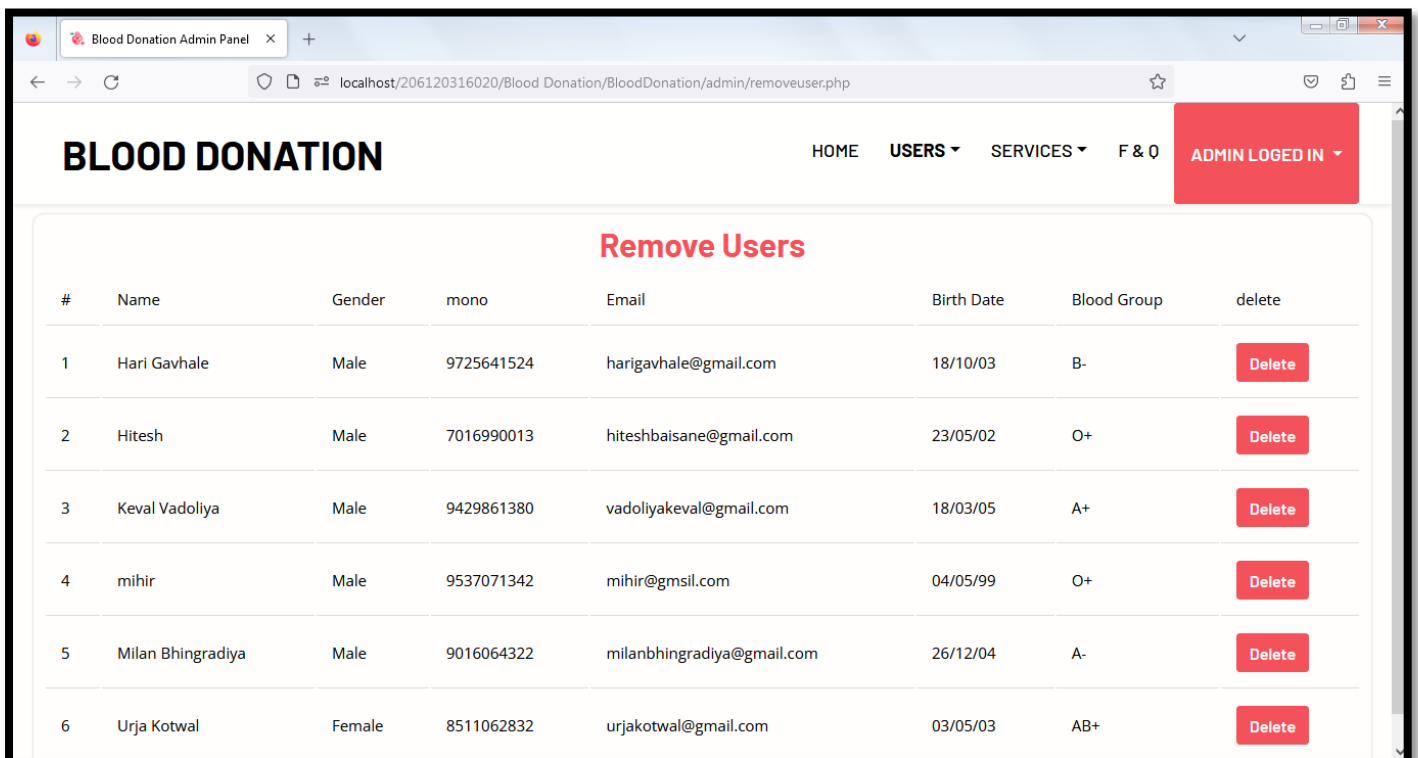
Viewing Blood Data:



The screenshot shows a web browser window with the 'Blood Donation Admin Panel' tab. The address bar shows the URL: localhost/206120316020/Blood Donation/BloodDonation/admin/blooddata.php. The page has a navigation bar with 'HOME', 'USERS', 'SERVICES', and 'F & Q' links, and a red 'ADMIN LOGGED IN' button. The main content area is titled 'Blood Data' and contains a table with 10 columns: #, Name, O+, O-, A+, A-, B+, B-, AB+, and AB-. The table lists 4 rows of data.

#	Name	O+	O-	A+	A-	B+	B-	AB+	AB-
1	RedCrossAdajan1	9	6	32	27	30	24	29	20
2	lokSamarpansuart	7	5	41	36	32	25	18	28
3	saviour	11	8	39	31	27	17	36	25
4	smimer	15	11	85	62	74	57	91	49

Managing Users:



The screenshot shows a web browser window with the 'Blood Donation Admin Panel' tab. The address bar shows the URL: localhost/206120316020/Blood Donation/BloodDonation/admin/removeuser.php. The page has a navigation bar with 'HOME', 'USERS', 'SERVICES', and 'F & Q' links, and a red 'ADMIN LOGGED IN' button. The main content area is titled 'Remove Users' and contains a table with 8 columns: #, Name, Gender, mono, Email, Birth Date, Blood Group, and delete. The table lists 6 rows of data, each with a red 'Delete' button.

#	Name	Gender	mono	Email	Birth Date	Blood Group	delete
1	Hari Gavhale	Male	9725641524	harigavhale@gmail.com	18/10/03	B-	Delete
2	Hitesh	Male	7016990013	hiteshbaisane@gmail.com	23/05/02	O+	Delete
3	Keval Vadoliya	Male	9429861380	vadoliyakeval@gmail.com	18/03/05	A+	Delete
4	mihir	Male	9537071342	mihir@gmsil.com	04/05/99	O+	Delete
5	Milan Bhingradiya	Male	9016064322	milanbhingradiya@gmail.com	26/12/04	A-	Delete
6	Urja Kotwal	Female	8511062832	urjakotwal@gmail.com	03/05/03	AB+	Delete

Managing Camps:

BLOOD DONATION HOME USERS SERVICES F & Q ADMIN LOGGED IN

Campaign

Create Campaign

#	Name	address	pin	map	mono	tag	image	date	time	update	delete
1	Camp KatarGam	ground opp of Vishala Garden, Cawsway char rasta, Katargam, Surat	395004		7777758889	Donate blood, Save Life		16/5/2023	6:30 To 9:50	update	Delete

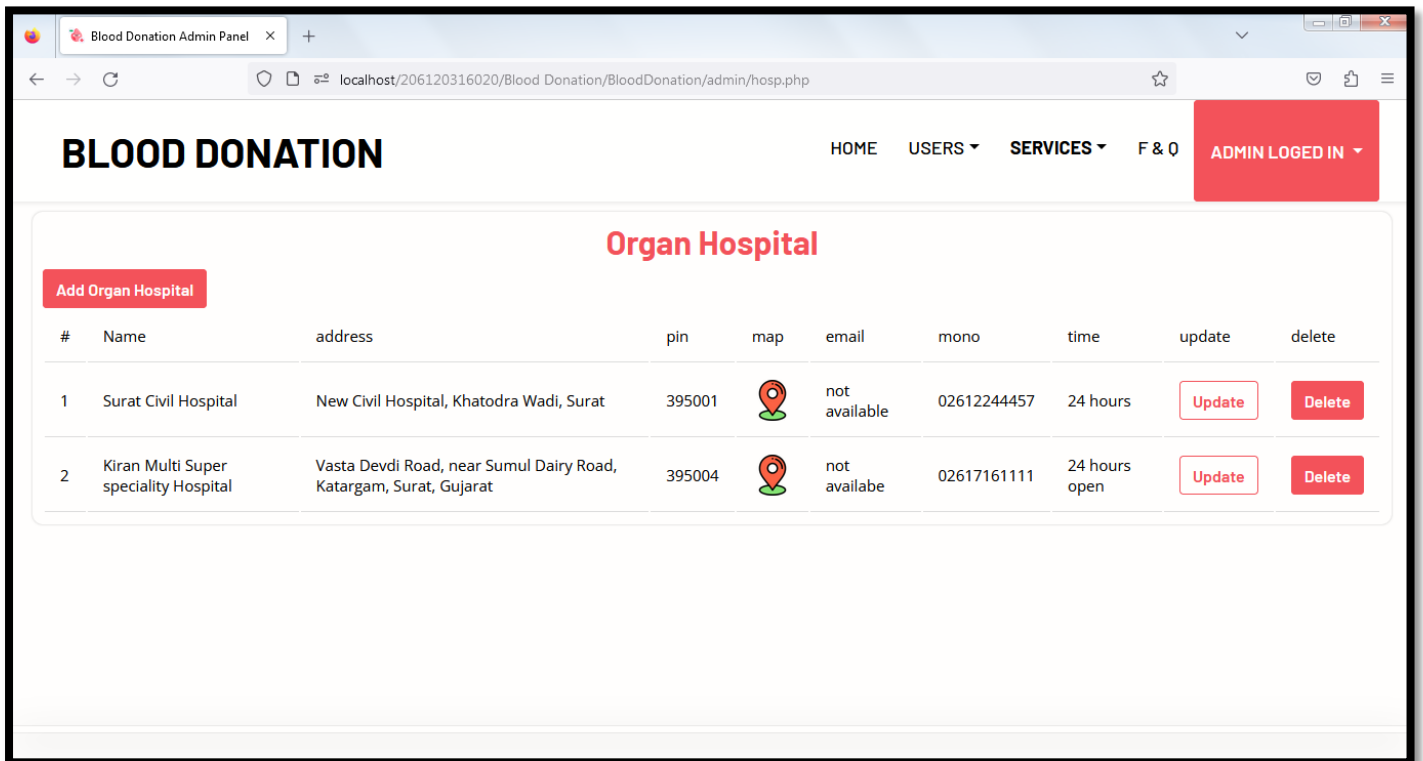
Managing Camps Requests:

BLOOD DONATION HOME USERS SERVICES F & Q ADMIN LOGGED IN



Approve Campaign

#	Name	address	pin	map	mono	tag	NGO	image	date	time	Approve
1	Camp name1	Camp address 1	500000		7777777777	Camp tag line1	HelperNgo1		23/04/23	19:10 To 20:30	approve

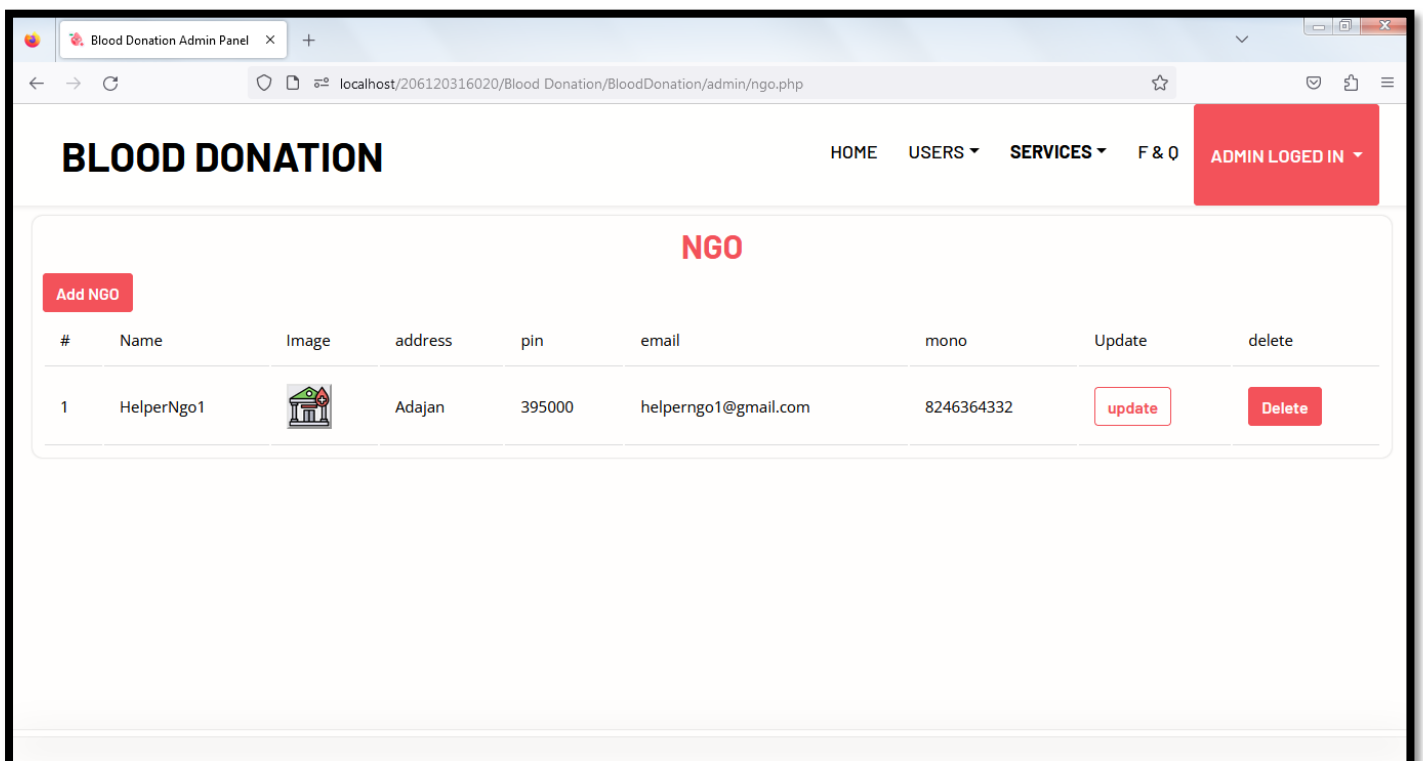
Managing Organ Hospitals:




The screenshot shows a web browser window with the URL `localhost/206120316020/Blood Donation/BloodDonation/admin/hosp.php`. The page title is "BLOOD DONATION". The navigation bar includes links for HOME, USERS, SERVICES, and F & Q. A red button labeled "ADMIN LOGGED IN" is in the top right corner. The main content area is titled "Organ Hospital" and features a red "Add Organ Hospital" button. Below this is a table with columns: #, Name, address, pin, map, email, mono, time, update, and delete. The table contains two rows of data for hospitals in Surat, Gujarat.

#	Name	address	pin	map	email	mono	time	update	delete
1	Surat Civil Hospital	New Civil Hospital, Khatodra Wadi, Surat	395001		not available	02612244457	24 hours	Update	Delete
2	Kiran Multi Super speciality Hospital	Vasta Devdi Road, near Sumul Dairy Road, Katargam, Surat, Gujarat	395004		not available	02617161111	24 hours open	Update	Delete

Managing NGOs:



The screenshot shows a web browser window with the URL `localhost/206120316020/Blood Donation/BloodDonation/admin/ngo.php`. The page title is "BLOOD DONATION". The navigation bar includes links for HOME, USERS, SERVICES, and F & Q. A red button labeled "ADMIN LOGGED IN" is in the top right corner. The main content area is titled "NGO" and features a red "Add NGO" button. Below this is a table with columns: #, Name, Image, address, pin, email, mono, Update, and delete. The table contains one row of data for "HelperNgo1".

#	Name	Image	address	pin	email	mono	Update	delete
1	HelperNgo1		Adajan	395000	helperngo1@gmail.com	8246364332	update	Delete

Chapter 6

Testing

6.1: User Side Test Case

Serial no	Description	Test Data	Expected outcome	Actual Output	Status
1	Launch the Application	Open Blood Donation App	Display Splash Screen then redirect to login	Display Splash Screen then redirect to login	Pass
2	User Login: Verify Is user fails to login with invalid id and password	id: keval password: 123	Log In Fails: Toast Message Displayed Incorrect Username Or Password	Log In Fails: Toast Message Displayed Incorrect Username Or Password	Pass
3	User Login: Verify Is user fails to login with valid id and invalid password	id: keval@345 password: abc	Log In Fails: Toast Message Displayed Incorrect Password	Log In Fails: Toast Message Displayed Incorrect Password	Pass
4	User Login: Verify Is user logins successfully with valid id and password	id: keval@345 password: 12345	Log Ins Successfully: Screen then redirect to Walkthrough	Log Ins Successfully: Screen then redirect to Walkthrough	Pass
5	Forget Password: Verify if Username doesn't exist in Database	id: keval	OTP sending fails: Toast Message Displayed Incorrect Username	OTP sending fails: Toast Message Displayed Incorrect Username	Pass
6	Forget Password: Verify if Username exist in Database	id: keval@345	OTP sent Successfully To Registered Mobile no of that User	OTP sent Successfully To Registered Mobile no of that User	Pass
7	Forget Password: Verify if OTP is Incorrect	OTP: 9999	OTP authentication fails: Toast Message Displayed Incorrect OTP	OTP authentication fails: Toast Message Displayed Incorrect OTP	Pass

Blood Donation System

8	Forget Password: Verify if OTP is Correct	OTP: 5768	OTP authentication Passed: User can reset password as he/she want	OTP authentication Passed: User can reset password as he/she want	Pass
9	Create User: Verify if he /she can upload blood donation eligible certificate pdf	Pdf file: 2023050951.pdf	PDF File Is Selected Successfully in App	PDF File Is Selected Successfully in App	Pass
10	Create User: Verify If User Data Uploads in Database when user submits	Click on Submit Button when User fills in all Info.	All Data with PDF is uplodged into Firebase Database and New User is Created	All Data with PDF is uplodged into Firebase Database and New User is Created	Pass
11	WalkThrough: Launch the BloodBanks Page	Click On Let's get started Button on last walkthrough page	User gets redirected to BloodBank Page	User gets redirected to BloodBank Page	Pass
12	BloodBank, Camp, Organ Hospital: Exploring them	Click On Explore Button of any desired place	User redirected to Explore (additional Info) of place	User redirected to Explore (additional Info) of place	Pass
13	Explore place: Calling	Click On Call Button	Contact Number of place will be dialed on your dialer	Contact Number of place will be dialed on your dialer	Pass
14	Explore place: Locating	Click On Locate Button	Place will be displayed on map with co-ordinates.	Place will be displayed on map with co-ordinates.	Pass
15	Explore BloodBank: View Blood Data	Click On View Blood Data	Number of packets of blood available in that Blood Bank will be displayed	Number of packets of blood available in that Blood Bank will be displayed	Pass

Blood Donation System

16	Profile: Update Profile	Update User Account Info	Info of User will be updated in Firebase Database	Info of User will be updated in Firebase Database	Pass
17	Create Camp: Locate GPS co-ordinates in map	Click on Map Co-ordinates and press back where you want to create blood donation camp	Co-ordinates of location will be retrieved in Create Camp Form	Co-ordinates of location will be retrieved in Create Camp Form	Pass
18	Create Camp: Select Helper NGO	Select one of the NGO from NGO list in Explore section of them	NGO Id and NGO name will be retrieved in Create Camp Form	NGO Id and NGO name will be retrieved in Create Camp Form	Pass
19	Create Camp: Submit Create Blood Donation Camp Form	Fill Up all data in Create Camp Form and Submit it	Camp Creation Request is registered in Firebase Database	Camp Creation Request is registered in Firebase Database	Pass
20	Camp: Update,Delete Camp	update or delete camp if it is created with that account	Camp Info is Updated or Deleted in Firebase Database	Camp Info is Updated or Deleted in Firebase Database	Pass
21	BloodBank, Camp,Organ Hospital,NGO: Searching	Places are searched with Pin Code by Manually or Voice	Places are Searched with Pin Code Successfully	Places are Searched with Pin Code Successfully	Pass
22	Share App	Click on Share option in Navigation Drawer	Apk file of this app is shared via google drive link	Apk file of this app is shared via google drive link	Pass
23	Log Out	Click On Log out option in Navigation Drawer	User is Logged Out of app	User is Logged Out of app	Pass

6.2: Blood Bank Side Test Case

Serial no	Description	Test Data	Expected outcome	Actual Output	Status
1	Launch the WEB application	Open localhost/BloodDonation/Login.php	Open Login Page	Open Login Page	Pass
2	Login as Blood bank	Check the valid username and password by existed bloodbank info	Login Successful redirected to home page bloodbank/home.php	Login Successful redirected to home page bloodbank/home.php	Pass
3	Update Blood data	Insert/Update valid blood Data in blood data section	Successfully updated blood data	Successfully updated blood data	Pass

6.3: Admin Side Test Case

Serial no	Description	Test Data	Expected outcome	Actual Output	Status
1	Launch the WEB application	Open localhost/BloodDonation/Login.php	Open Login Page	Open Login Page	Pass
2	Login as Admin	Check the valid username and password by existed admin info	Login Successful redirected to home page home.php	Login Successful redirected to home page home.php	Pass
3	Create Camp	Create Camp in Camp section	Successfully created camp & waiting for approve	Successfully created camp & waiting for approve	Pass

Blood Donation System

4	Approve Camp	Approve user created Camp in Camp section	Successfully approved camp & redirect to firebase notification	Successfully approved camp & redirect to firebase notification	Pass
5	Add Blood bank	Add new Blood bank in Blood bank section	Successfully added new blood bank and their blood data	Successfully added new blood bank and their blood data	Pass
6	Remove Blood bank	Remove Blood bank in Blood bank section	Successfully removed blood bank and their blood data	Successfully removed new blood bank and their blood data	Pass
7	Add Organ Hospital	Add new Organ Hospitals in Organ Hospitals section	Successfully added new Organ Hospital and their data	Successfully added new Organ Hospital and their data	Pass
8	Remove Organ Hospital	Remove Organ Hospital in Organ Hospital section	Successfully removed Organ Hospital and their data	Successfully removed new Organ Hospital and their data	Pass
9	Add NGO	Add new NGO in NGO section	Successfully added new NGO and their data	Successfully added new NGO and their data	Pass
10	Remove NGO	Remove NGO in NGO section	Successfully removed NGO and their data	Successfully removed NGO and their data	Pass
11	Approving Users for Blood Donation	Verifying Blood Donation Eligible Certificate Of User	Approve or Disapprove User for Blood Donation	Viewing PDF is Pending	Fail
12	Remove User	Remove existed user in User section	Successfully removed user and their data	Successfully removed user and their data	Pass

Chapter 7
Advantages, Limitation
& Future Enhancement

7.1 Advantages:

- By the help of 'blood donation' app people can donate-receive blood & donate organ easily.
- Blood Banks can easily update their Blood Data any time.
- People can also see the available blood camps in the 'Camp' section.
- When user need blood he/she can find available Camp or blood bank according to their need.
- User can also see available Blood quantity in Blood Banks when he/she requires blood.
- People can easily call or locate on map these Camp, Blood Bank, Organ Hospital when anytime required.
- User can also create the camps for blood donation.

7.2 Limitations:

- Application must need internet connection.
- Only android users can use this application.
- Application needs proper admin that manage the system if admin not give proper effort, then user can't do anything like camp creation, and get updated Info of blood banks, Organ Hospitals Etc.

7.3 Future Enhancement:

- For future enhancement we can also add the fund raiser module for raise the fund and transfer them to essential people whose medical condition is not very well.
- We will approve or disapprove blood donation capability of User by blood donation eligible certificate.
- We will also improve much functionality in our application so user can easily access and satisfied with our application.
- Also, we will make the application flow according to user's need and requirement.
- In future We will make our application platform independent so every phone's user can easily use our application.

Chapter 8

Conclusion

8.1 Conclusion

- Our application is very simple and easily understood by any user.
- We also provide various functionality so user can use it.
- With the use of blood donation application user will be satisfied that he/she will be easily able to find the Camps, blood banks and Organ Hospitals with Pin Code.
- User will be able to call or locate these camps, blood banks, Organ Hospitals immediately when needed, also able to see blood data of these blood banks.

Bibliography

❖ URL:

- Android Documentation Available:
<https://developer.android.com/>
- Integrate Firebase Realtime Database with Android and web app Documentation Available:
<https://firebase.google.com/docs/database/android/start#java>
<https://firebase.google.com/docs/database/web/start>
- Firebase Realtime Database Available on:
<https://console.firebase.google.com/u/0/project/blooddonation-bf35b/database/blooddonation-bf35b-default-rtdb/data>
- Notifications Managed with:
<https://console.firebase.google.com/u/0/project/blooddonation-bf35b/messaging>
- Material Components Available from :
<https://m3.material.io/components>
- Android with Firebase and RecyclerView Tutorials Available:
https://www.youtube.com/watch?v=vpnPguOS-mQ&list=PLirRGafa75rQOI3so_ngAHqDmq_Djifwu&ab_channel=MdJamal
https://www.youtube.com/watch?v=9tD6uCOdvmY&list=PLirRGafa75rSMDp5bORq_eHjMLKqJ2EYO&ab_channel=MdJamal
- Community and AI Helpers Available:
<https://stackoverflow.com/>
<https://chat.openai.com/>