Blood Bank management application UI

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INTRODUCTION

BloodNet is a user-friendly and efficient Blood Bank Management application designed to streamline the process of blood donation, request, and inventory management. The app aims to bridge the gap between donors, recipients, and blood banks by providing a seamless interface for users to register, find nearby donation centers, request blood, and track availability in real time. With an intuitive UI and a focus on accessibility, BloodNet enhances the efficiency of blood management systems, ensuring timely and lifesaving assistance for those in need.

1. User-Friendly Interface:

   A clean and intuitive UI designed with accessibility in mind. Easy navigation, with clearly labeled buttons and sections. Minimal cognitive load, ensuring even first-time users can navigate effortlessly.

2. Real-Time Blood Availability Tracking:

   Integrated with blood banks to provide live updates on available blood stock. Users can check blood availability before making a request. Dynamic notifications if stock levels change or if a matching unit becomes available.

3. Donor Registration & Tracking:

   Users can register as volunteer blood donors and maintain a record of donations. Automatic eligibility reminders (based on last donation date and health guidelines). A donation history log that tracks past donations and upcoming scheduled appointments.

4. Geo-Location Based Donor & Blood Bank Finder:

   Integrated Google Maps API or OpenStreetMap for real-time location-based searches. Helps users find the nearest blood banks or available donors. Supports navigation assistance to guide users to donation centers.

5. Emergency Blood Requests & SOS Alerts:

   A dedicated Emergency Blood Request button for urgent cases. Sends priority notifications to nearby donors with matching blood types. Hospitals and patients can mark urgent requirements, ensuring faster response times.

6. Push Notifications & Alerts:

   Users receive timely reminders for upcoming blood donation camps and appointments. Notifications for new blood requests, emergency needs, and availability updates. Customizable alerts based on user preferences and location.

7. Appointment Scheduling & Booking System:

Users can schedule appointments with blood banks or donation centers. Appointment reminders ensure on-time visits and donor management. Hospitals can pre-book blood units to secure availability for scheduled surgeries.

8. Community & Awareness Programs:

   In-app blood donation campaigns to encourage participation. Users can join blood donation groups or communities to support causes. Educational resources on the importance of blood donation and health tips.

9. Digital Donor Card & Reward System:

   Donors receive a digital donor card that tracks their contributions. Reward-based system: Earn badges or incentives for frequent donations. Gamification elements to encourage participation and save lives.

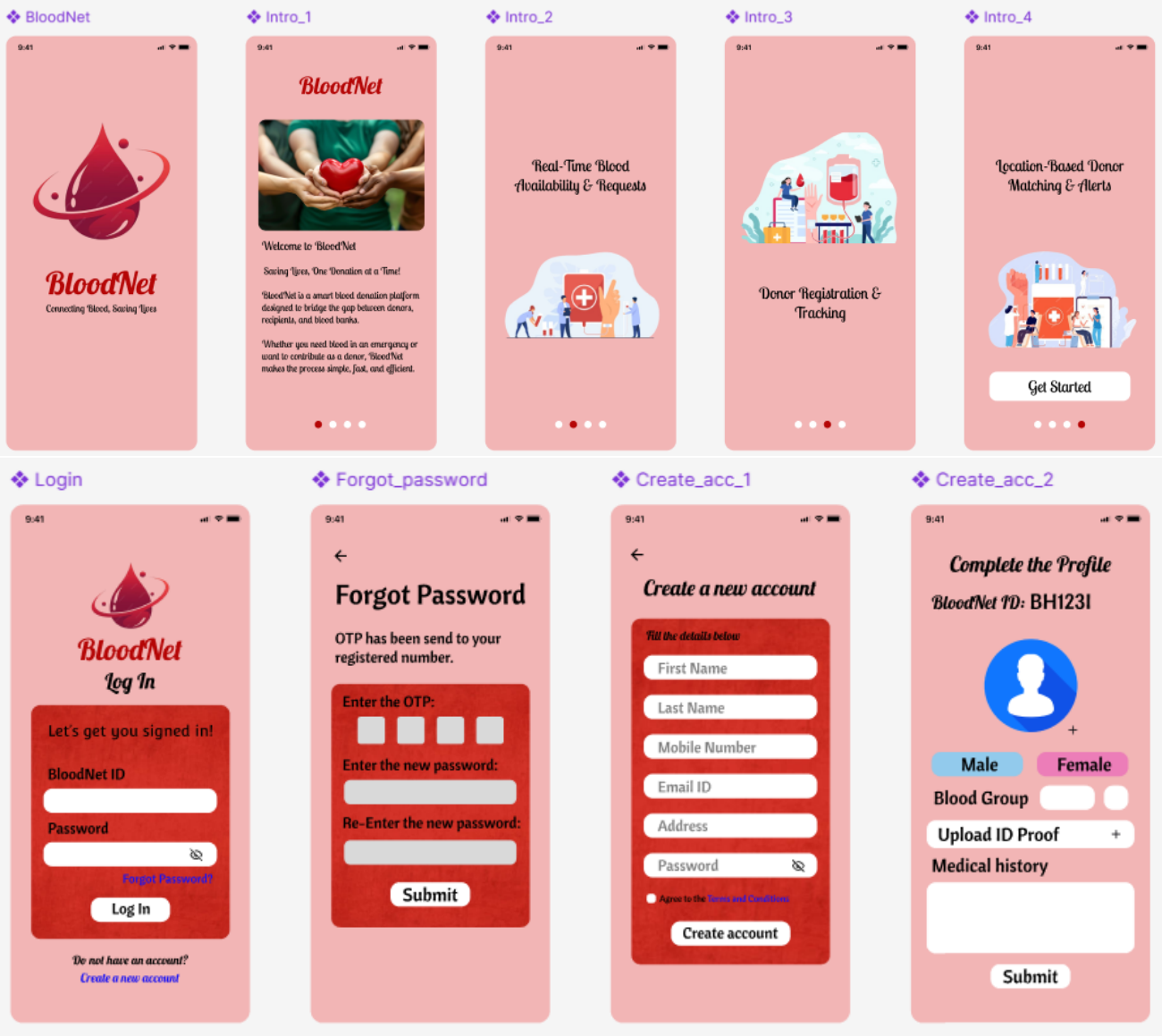
10. Streamlined Blood Donation & Request Process:

    BloodNet ensures a hassle-free experience for both donors and recipients by simplifying the blood donation and request process. For Donors: A guided step-by-step process for easy registration, eligibility check, and appointment scheduling. For Recipients: Quick blood request submission with real-time tracking and priority-based processing. For Hospitals & Blood Banks: Efficient management of donor data and requests, reducing manual effort and delays.

11. QR Code-Based Fast-Track System:

    To enhance speed and efficiency, BloodNet integrates a QR code-based system for quick processing at hospitals and blood banks. Donors: Generate a unique QR code for instant check-in and verification at donation centers. Recipients: Receive a QR code linked to their blood request for seamless tracking and hospital processing. Hospitals & Blood Banks: Scan QR codes to quickly access donor history, request details, and blood stock availability, ensuring faster response times.

SCREENSHOT OF APP



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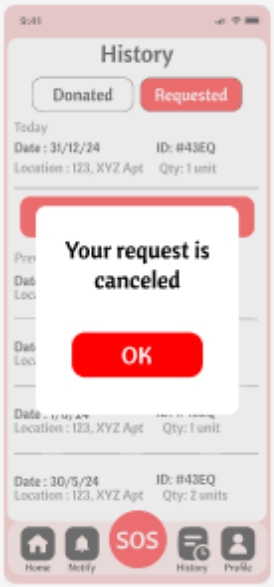

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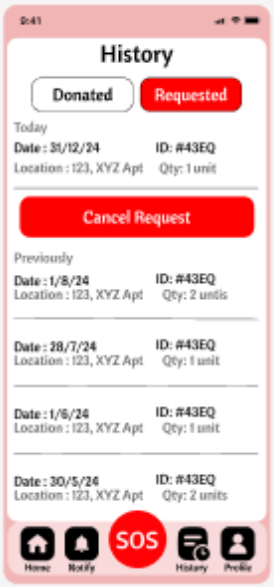
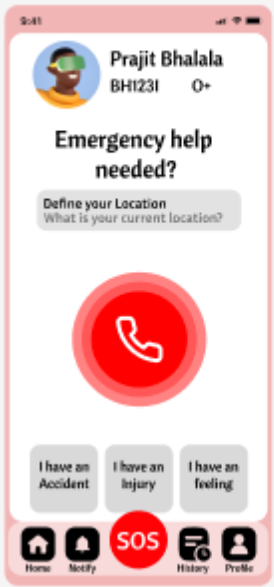


❖ Donate_History

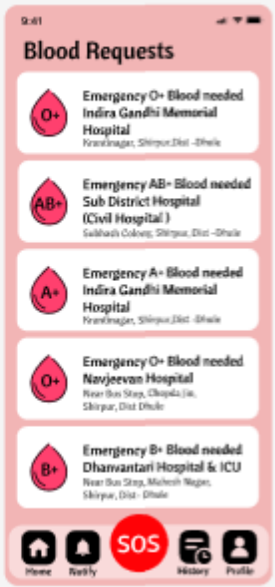
❖ Profile

❖ SOS



❖ Home

❖ Notifications



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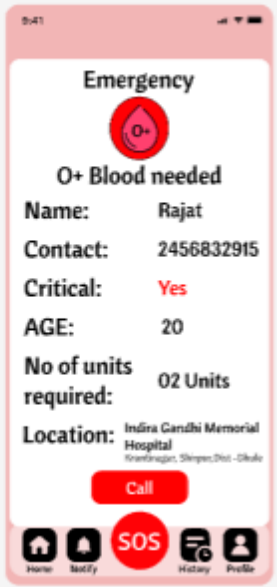

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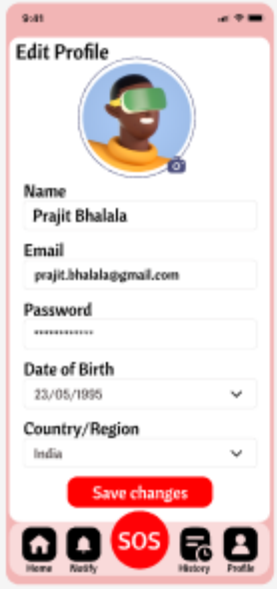
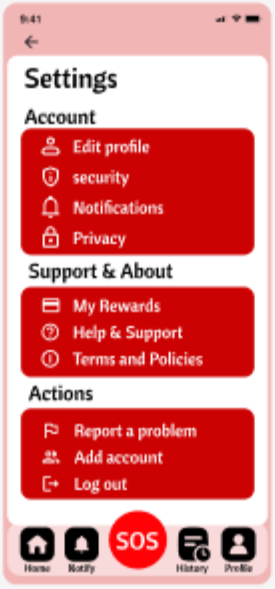
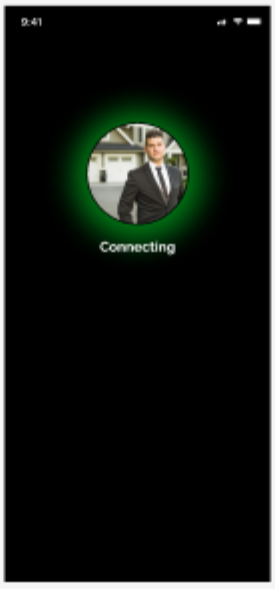


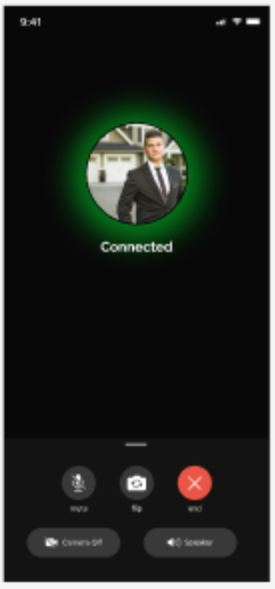
Setting



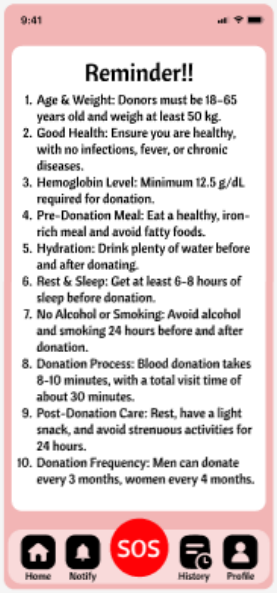
call



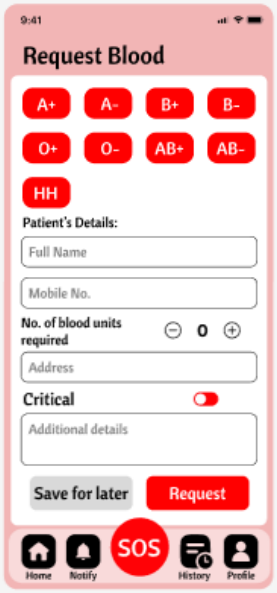
call_2



Donate_1

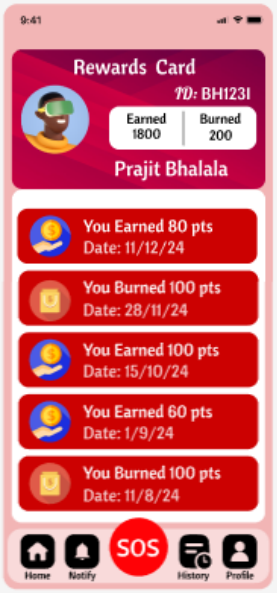


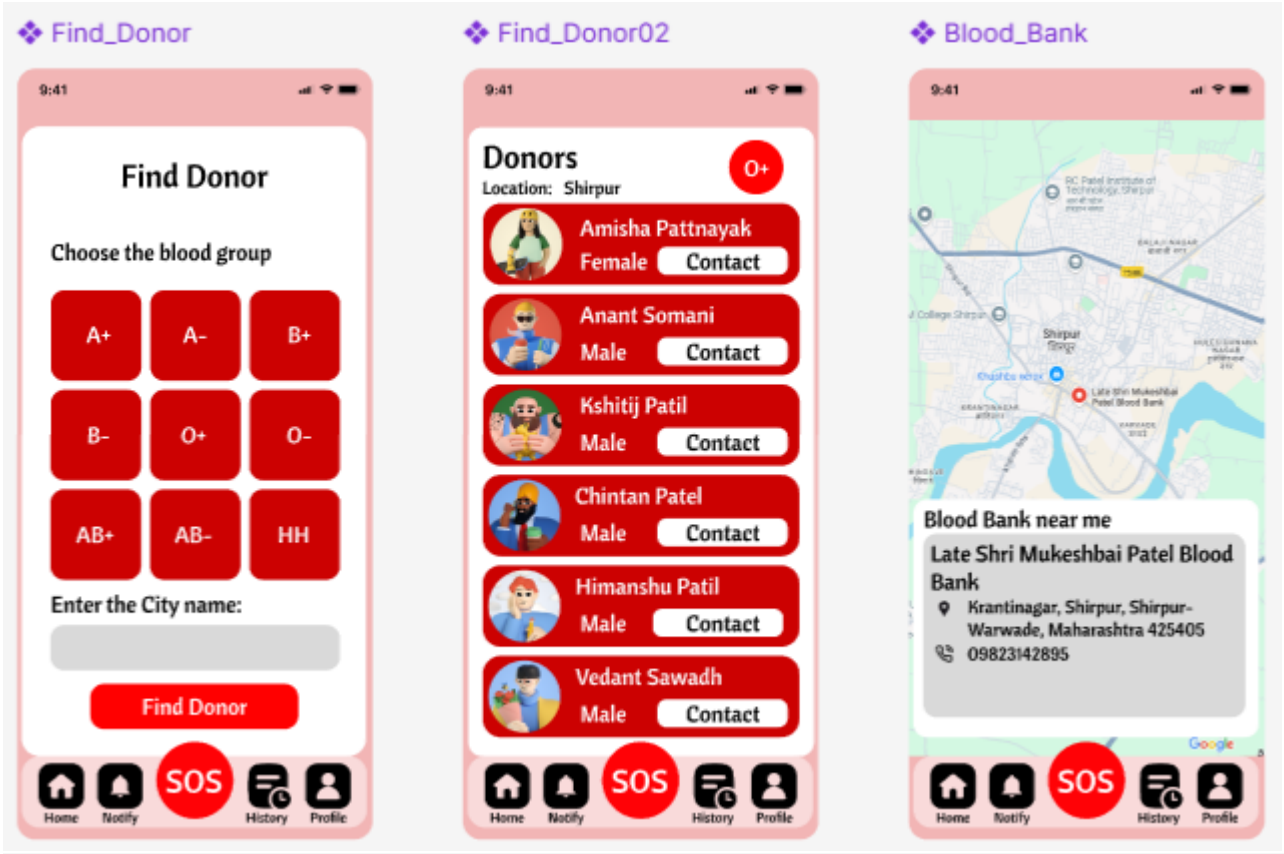
Request_1

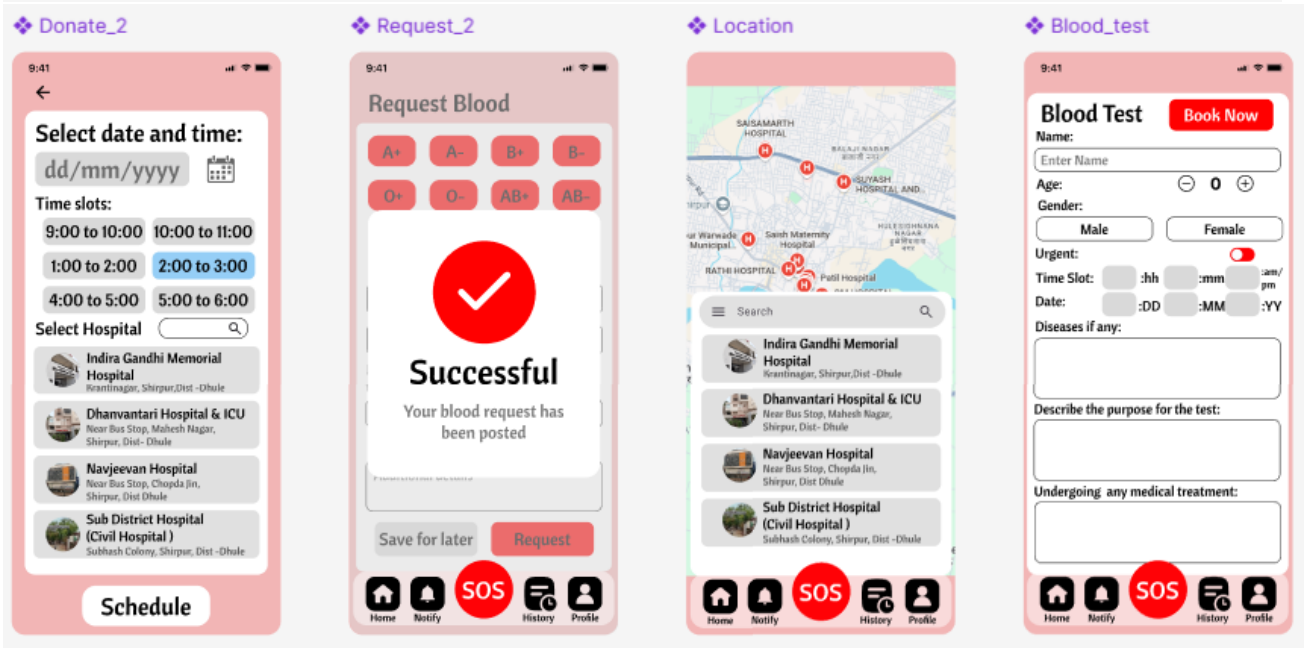


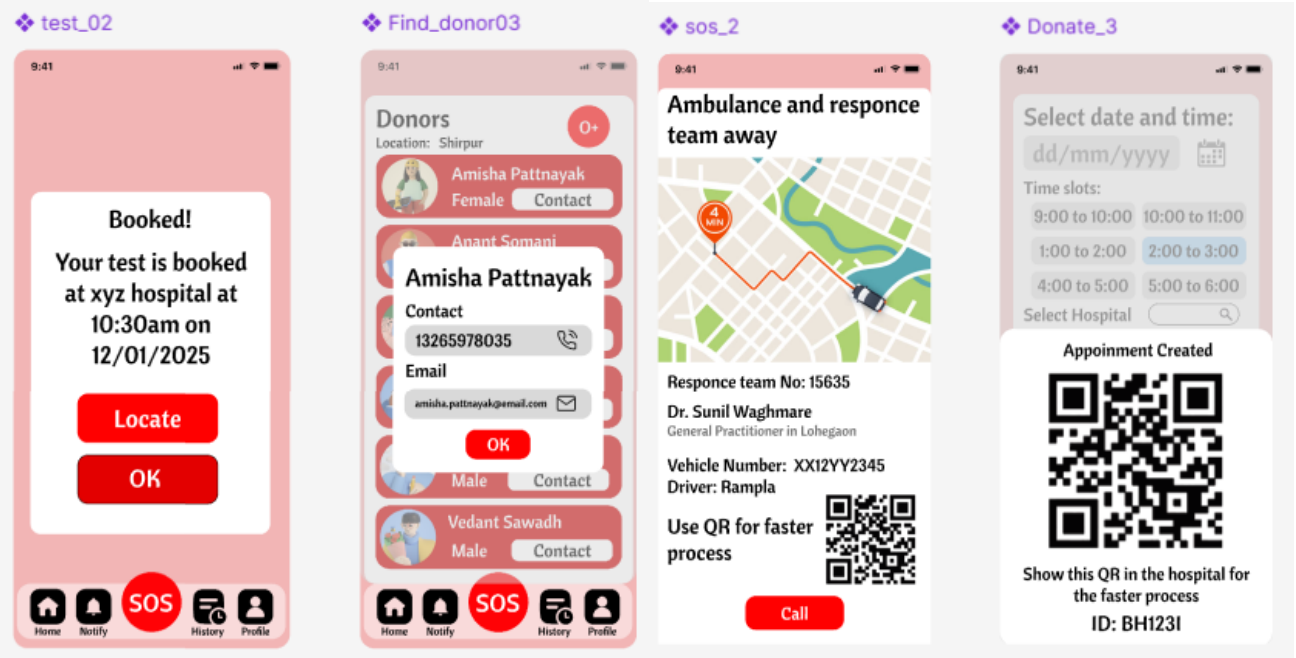
Live_events

Rewards

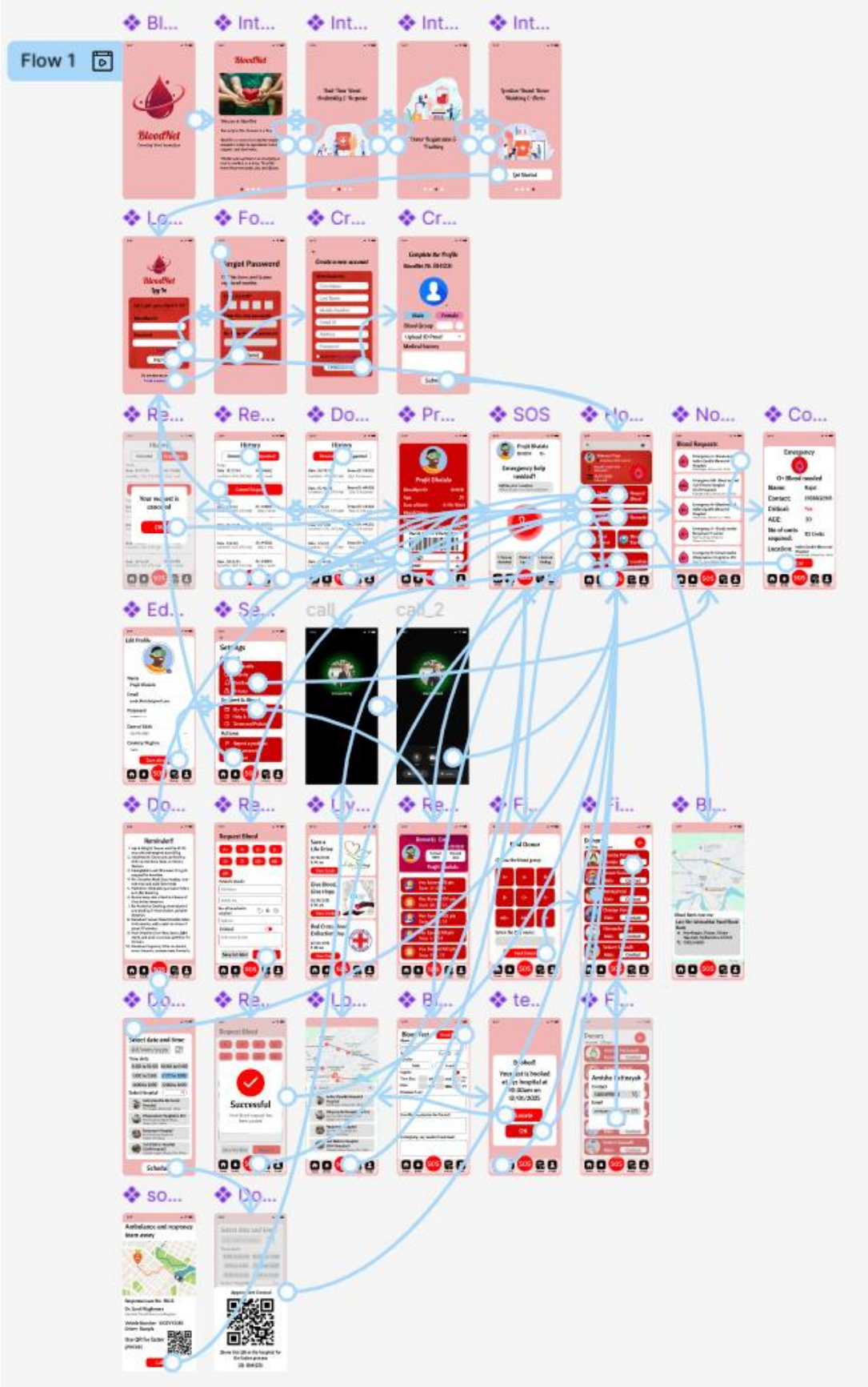



Find_Donor
Find Donor
Choose the blood group
A+
A-
B+
B-
O+
O-
AB+
AB-
HH
Enter the City name:
Find Donor
Home
Notify
SOS
History
Profile
Find_Donor02
Donors
Location: Shirpur
O+
Amisha Pattnayak
Female
Contact
Anant Somani
Male
Contact
Kshitij Patil
Male
Contact
Chintan Patel
Male
Contact
Himanshu Patil
Male
Contact
Vedant Sawadh
Male
Contact
Blood_Bank
Blood Bank near me
Late Shri Mukeshbai Patel Blood Bank
Krantinagar, Shirpur, Shirpur-Warwade, Maharashtra 425405
09823142895


Donate_2
Select date and time:
dd/mm/yyyy
Time slots:
9:00 to 10:00
10:00 to 11:00
1:00 to 2:00
2:00 to 3:00
4:00 to 5:00
5:00 to 6:00
Select Hospital
Indira Gandhi Memorial Hospital
Dhanvantari Hospital & ICU
Navjeevan Hospital
Sub District Hospital (Civil Hospital)
Schedule
Request_2
Request Blood
Successful
Your blood request has been posted
Save for later
Request
Location
Search
Blood_test
Blood Test
Book Now
Name:
Enter Name
Age:
Gender:
Male
Female
Urgent:
Time Slot:
Date:
Diseases if any:
Describe the purpose for the test:
Undergoing any medical treatment:


test_02
9:41
Booked!
Your test is booked at xyz hospital at 10:30am on 12/01/2025
Locate
OK
Home
Notify
SOS
History
Profile
Find_donor03
9:41
Donors
Location: Shirpur
O+
Amisha Pattnayak
Female
Contact
Amisha Pattnayak
Contact
13265978035
Email
amisha.pattnayak@email.com
OK
Male
Contact
Vedant Sawadh
Male
Contact
Home
Notify
SOS
History
Profile
sos_2
9:41
Ambulance and responce team away
4 MIN
Responce team No: 15635
Dr. Sunil Waghmare
General Practitioner in Lohegaon
Vehicle Number: XX12YY2345
Driver: Rampla
Use QR for faster process
Call
Donate_3
9:41
Select date and time:
dd/mm/yyyy
Time slots:
9:00 to 10:00
10:00 to 11:00
1:00 to 2:00
2:00 to 3:00
4:00 to 5:00
5:00 to 6:00
Select Hospital
Appoinment Created
Show this QR in the hospital for the faster process
ID: BH123I

FLOW OF APP


Flow 1
Bl...
Int...
Int...
Int...
Int...
Lo...
Fo...
Cr...
Cr...
Re...
Re...
Do...
Pr...
SOS
Ho...
No...
Co...
Ed...
Se...
call
call_2
Do...
Re...
Ly...
Re...
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Fi...
Bl...
Do...
Re...
Lo...
B...
te...
F...
so...
Do...

PRINCIPLE AND THEORY USED WHILE DESIGINING THE APPLICATION

The BloodNet app is designed with a strong emphasis on Human-Computer Interaction (HCI) principles and UI/UX design best practices to ensure usability, accessibility, and efficiency. Below are the key principles applied:

Nielsen's 10 Usability Heuristics

These principles guide the interface design to ensure intuitive navigation and ease of use.

1. Visibility of System Status

- Real-time status updates on blood request processing.
- Progress indicators for blood donation registration and request submission.
- Notifications for donors when their blood donation is used.

2. Match Between System and the Real World

- Uses real-world terms and icons instead of technical jargon.
- Blood request process follows a step-by-step format similar to hospital check-ins.
- QR-code-based verification mimics real-world hospital workflows.

3. User Control and Freedom

- Easy cancellation of blood requests before processing.
- Undo and edit options for entered details before final submission.
- Back navigation to return to previous screens without data loss.

4. Consistency and Standards

- Standardized button placements and color schemes across all pages.
- Uses familiar UI patterns like search bars, drop-down menus, and confirmation dialogs.
- Universal icons.

5. Error Prevention

- Smart input validation.
- Confirmation prompts before submitting critical actions.
- Automatic location detection to prevent incorrect manual entries.

6. Recognition Rather Than Recall

- Auto-fill suggestions for repeated searches.
- Predefined options for selecting blood type and location instead of manual typing.
- Quick access to donation history and previous requests via profile.

7. Flexibility and Efficiency of Use

- Quick donation scheduling for frequent donors with saved profiles.
- QR-code-based fast-track check-in at hospitals.

- Keyboard shortcuts for power users.

8. Aesthetic and Minimalist Design

- Clutter-free interface with only necessary information displayed.
- Clear visual hierarchy with bold action buttons for important tasks.
- Minimal steps to complete tasks.

9. Help Users Recognize, Diagnose, and Recover from Errors

- Clear error messages.
- Suggestions for corrections.
- Help section and FAQs for troubleshooting issues.

10. Help and Documentation

- Step-by-step guides for new users.
- Integrated chatbot and FAQs for instant support.
- Contact support option within the app for emergency help.

Cognitive Load Theory

Minimizing cognitive effort ensures a smooth and stress-free user experience.

- Minimal Data Entry
    - Auto-filled fields for returning users.
    - QR-code scanning to avoid manual donor information input.
- Progressive Disclosure
    - Shows only necessary information at each step.

Schneiderman's 08 Golden Rules of Interface Design

1. Strive for Consistency
    - Uniform UI elements such as buttons, icons, and form layouts across all screens.
    - Consistent terminology.
2. Enable Frequent Users to Use Shortcuts
    - Quick actions for registered users.
    - QR-code-based check-in for hospitals to speed up verification.
3. Offer Informative Feedback
    - Real-time confirmation messages for successful blood donation requests.
    - Status indicators for request tracking.
4. Design Dialogs to Yield Closure
    - After completing a blood request, users get a summary confirmation page with details.
    - Success messages and next steps after form submission to reduce confusion.
5. Prevent Errors
    - Smart input validation.
    - Confirmation prompts before submitting or canceling important actions.
6. Permit Easy Reversal of Actions
    - Undo options for accidental cancellations.
    - Editable request details before final submission.

7. Support Internal Locus of Control
    - Users feel in control with features like real-time tracking and cancellation options.
    - Customizable settings for notifications and alerts.
8. Reduce Short-Term Memory Load
    - Auto-fill suggestions based on previous inputs.
    - Step-by-step guided donation process to minimize confusion.

Norman's 07 Principles of Design

1. Discoverability
    - Clear navigation with intuitive icons for blood requests, donor registration, and tracking.
    - Guided onboarding for new users.
2. Feedback
    - Instant visual and auditory feedback.
    - Live request status updates for donors and recipients.
3. Conceptual Model
    - Users understand how the app works instantly through a familiar design.
    - QR code system for seamless donor-hospital interactions.
4. Affordances
    - Clickable buttons look like buttons, links are underlined, and form fields are easily recognizable.
    - Icons and labels provide clear.
5. Signifiers
    - Color-coded indicators.
    - Action buttons labeled clearly.
6. Mappings
    - Easy-to-understand navigation flow.
    - Logical arrangement of input fields.
7. Constraints
    - Predefined input fields to prevent invalid entries.
    - Unavailable blood types are automatically disabled in search filters.

FIGMA LINK

https://www.figma.com/proto/5yhPdvVZPYWHJPANMwMaue/BloodNet_HCI?node-id=30-65&p=f&t=BPAFVSGOSvpzVD5G-1&scaling=scale-down&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=30%3A65