Life Source

(Blood Donation Application)

Project Proposal: EC6060

Project by Group 2:

Arshath J.M. (2018/E/012)

Nayanajith Y.G.A. (2018/E/083)

Nuwansiri W.D.A. (2018/E/085)

Rodrigo S.M. (2018/E/102)

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Problem statement

Lack of blood reservation is a terrible issue in Sri Lankan Health Department. That can affect the patient who suffers from blood requirements. Sometimes that patient has to pay with their lives for this issue.

When we consider the contributors to the local blood reservation, blood donation campaigns take a major role in it. But unfortunately, it can't fulfill the need for blood due to some drawbacks. The main drawback can list down as,

- Insufficient blood storage
- Problems in information flow
- Lack of negative blood donors
- Finding blood in emergencies
- Traffic in blood donation campaigns

We have chosen this topic intending to find a method to improve the efficiency of the blood donation process.

Solution statement

When we try to provide solutions for drawbacks related to blood donations, we felt it's better if we can use something more related and bonded with the people. So we decided to develop our system based on a mobile application. With that we hope to virtualize the manual system and save the time takes for the manual process and give a better experience and propagate this service throughout the country.

By using this application,

- Organizers can able to create a post and send notifications to the donators and distribute the information to a large audience.
- Preserve a separate section for negative blood donors.
- Emergency notification feature.
- Timeslot recommendation feature
- Increase the effectiveness of the direct donor option.

Vision

Make a secure lifestyle for the patient who suffers from the blood by using a virtualized blood donating platform

Competitors

- Simply Blood
- Blood Donor (American Red Cross)
- NZ Blood Service Donor App (New Zealand)
- BloodLine (Bangladesh)
- Live Blood Bank (Bangladesh)

Stack holders

1. **Organizer:** Organizer is the role which responsible for arranging a blood donation campaign.
2. **Public Health Inspector (PHI):** PHI is responsible person for confirming a new blood donation campaign. He or she acts as a middleware between the organizer and the blood bank
3. **Blood bank:** The blood bank manages the blood records and manipulates those records after a donation happened.
4. **Donor:** The donor is the user role that acts as the target audience of our application.

Functional requirements

We can assign functional requirements considering each stakeholder's perspective.

1. Organizer:
    - They should be able to get approval for a new blood donation campaign from authorities (PHI and Blood bank)
    - Should be able to express their event among donors and get an idea about the attendance.
    - Should be able to see arranged campaigns.
2. PHI:
    - Should be able to approve a proposal after a manual review.
    - Wants to inform the blood bank about a new event.

3. Blood bank:
    - Want to update and manipulate blood records.
    - Should be able to maintain records about future events.
    - Want to contact donors (especially negative blood donors).
4. Donor:
    - Should be able to find the blood donation camp's location without trouble.
    - Get notified of a recommended timeslot for donating (to reduce time consumption).

Process Steps

1. Planning
2. Requirement gathering and analysis
3. Setup the collaborative platforms
    - Create a GitHub repository with collaborators
    - Maintain a workspace in Trello with Kanban board
4. Design & prototyping
    - Design the user interface(UI) and a prototype using Figma.
5. Programming
    - Database configuration
    - Initialize the backend
6. Testing
    - Testing routes using Postman
    - Testing functionalities using JEST library
7. Further Programming
    - Develop the frontend
    - Define required functions related to the task
8. Product deployement
    - Deployee the project in a remote hosting platform
    - Do a beta testing
6. Maintenance and Updates
    - Fix bugs in the beta test and improve the functionalities
    - Provide manual updates considering stakeholders requirements and programmatic changes

Use-case diagram

Version table

Date	Version	Reason for change	Authors
22/07/2022	2.0	• To add more content for several sections. • To update competitors due to absence is present. • To update the Use Case diagram • To change the format of the document	• Rodrigo S. M. • Arshath J.M. • Nuwansiri W.D.A. • Nayanajith Y.G.A.