International Journal of Information technology and Computer Engineering
ISSN: 2455-5290
Vol: 03, No. 02, Feb -Mar 2023
http://journal.hmjournals.com/index.php/IJITC
DOI: https://doi.org/10.55529/ijitc32.1.8

Newfangled Design Thinking-Based Application for Blood Donation and Assistance

Archana V[1], Deepak B[2*]

[1,2]UG Scholars Department of Information Technology SNS College of Technology, Coimbatore, Tamil Nadu, India.*

Corresponding Email: [2]deepaksmail2004@gmail.com*

Received: 17 October 2022 **Accepted:** 30 December 2022 **Published:** 01 February 2023

Abstract: All lives are in the digital era, where everything is available online and mostly application. To enrich its strength, an application for blood donation has been developed in the name of "Blood World". This application helps to overcome the knowledgelessness over blood donation and services by providing accurate information about the availability of blood and ways to donate blood.There are more centers to provide the information on blood donation camps, but in this era the human beings are busy with their periodic schedule. so make it available in the form of a mobile application. Requests can also be given which will be processed earlier than the available ones. The application also includes information about the cause and preventive measures about blood related problems and also includes options for making appointments with the doctors. The complete design is made up of XML and the powerful language JAVA is used in the construction of application. The app thus developed is highly reliable and is more user-friendly.

Keywords: XML, JAVA

1. INTRODUCTION

Overview

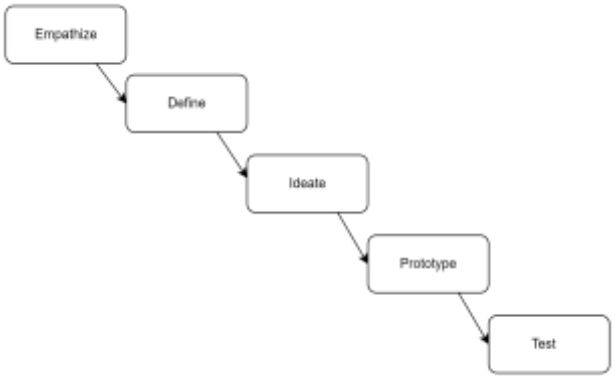
The process of visiting the blood center to gather the information about donation and stocks available has turned out to riskful to the busy human beings in this era. so the huge gap is created between the humans and blood services. To bridge the gap this mobile application plays a major role.on the time of an emergence for blood requirement to save a life there is no proper and trustable mobile platform. To solve life-killing problems, this application enables the most valuable features free of cost so that every human being can get used to it. Most of the volunteers for the blood donation struggle to get nearby camps to make the life saving activity. This can ultimately fix the issues faced and acn provide the more accurate information.

Copyright The Author(s) 2023.This is an Open Access Article distributed under the CC BY license. (http://creativecommons.org/licenses/by/4.0/)

International Journal of Information technology and Computer Engineering
ISSN: 2455-5290
Vol: 03, No. 02, Feb -Mar 2023
http://journal.hmjournals.com/index.php/IJITC
DOI: https://doi.org/10.55529/ijitc32.1.8

Project Description

The blood service system describes the system which facilitates the public in the situation of emergency and to make search activity more easter. the use of design thinking processes the project to get completed in a more successful manner.



Design thinking stages

Empathise

The volunteers for the blood donation struggle to get nearby camps to make the life saving activity. In the time of emergency blood required, the way to communicate among the volunteers and blood banks is highly risky, due to this communication gap the valuable lives are passed out. Though the blood donative volunteers are ready to donate but due to the less accurate and less trust communication does not provide the chance to donate the blood on the correct emergency period. The basic blood problems create fearfulness among the public and unable to perform the basic remedies or first aids due to knowledgeableness. The public goes to the nearby doctors for consultation for their problems. Most of them can be recovered by the suitable medicine prescribed by the respective doctor. but nowadays the doctor gets prescription and predictive medicine and identifies after a few consultants. This allows the public to play with their valuable lives.

Define

Blood is the most precious gift that anyone can give to another person as a gift of life. when the volunteer knows the accurate area of donation they do it regularly. In an emergency situation of blood requirement the way of communication with the public as much as possible is most important, it becomes very simple if it is available in the mobile application as everyone uses it in the current era. The way of communicating with the public in a more accurate and trustable manner is aimed in this application.

Goals and Objectives

The purpose of the application is to give a better idea for a rescue system with a user-friendly interface in case of emergency and rescue situations. At the present, there is no such application which can facilitate the people in case of emergency through a smart phone app.

Copyright The Author(s) 2023.This is an Open Access Article distributed under the CC BY license. (http://creativecommons.org/licenses/by/4.0/)

International Journal of Information technology and Computer Engineering
ISSN: 2455-5290
Vol: 03, No. 02, Feb -Mar 2023
http://journal.hmjournals.com/index.php/IJITC
DOI: https://doi.org/10.55529/ijitc32.1.8

Supplementary Requirements

1. **Usability:** The application is developed with a user-friendly environment such as the font size, text alignment and other complicated things are adjusted in a simple way. Users can easily understand the functions of the application.
2. **Reliability:** System will be able to perform operation efficiently with a reliable environment and with minimum chances of losing data.
3. **Supportability:** This application can be easily downloaded from Google play store and can be used rapidly with fast verification incase of emergency

Ideate

The blood service system can be implemented in mobile applications in a trustable manner with the sign in option, so the admins and the users may have their appropriate id for signing in and using the application. The information available in the application can be modified by the domain id which is provided to all of the blood centers.

Existing Systems

The platform currently in use has a lot of man work as every information is to be included and managed by the developer of the platform , so the user can get use of the available information. there is less accurate information, occurred due to the manual updation and time delay. All of the users do not get access to the complete information and the medical centers cant modify the information available in their corresponding page. they must send an update request to the respective updation office(developer), so that the updation is made.

Proposed System

This mobile application contains two different accesses, namely user and domain. the user can on;y see the information that is updated in the application by the domine. domine access is given to all of the blood centers, they can modify their respective information on their page in the domine application. the user access gets signed in using their mobile number with verification. the user can choose their own password to get entered on every next login process, also the user can get inside the application in the guest mode for emergency. as the mobile number is used in the sign in area the application becomes more trustable.

After logging in the user enters into the application. the user can see all of his information in the profile page. Here the user doesn't need to enter any of his medical details ,so the medical privacy issues are eliminated completely. in the home screen there are several options. The blood donation areas are more accurately available on the donation page. This information can be modified by domain access. This might be updated whenever as needed by the blood centers as they only have the domine access. The blood center can update the biological information of their own blood center in the application , so the user can see the availability of the bloods in the centers.

The main features of the application is making requests for blood in emergency situations. when a user makes use of the blood request option that is available in the home screen then

Copyright The Author(s) 2023.This is an Open Access Article distributed under the CC BY license. (http://creativecommons.org/licenses/by/4.0/)

International Journal of Information technology and Computer Engineering
ISSN: 2455-5290
Vol: 03, No. 02, Feb -Mar 2023
http://journal.hmjournals.com/index.php/IJITC
DOI: https://doi.org/10.55529/ijitc32.1.8

required details to be provided and the request can be sent successfully. The request sent by the one user is sent to all of the other mutual users as in the feature of notification.by notification in the application, the volunteers can be contacted to the person who made the respective blood request.

Additionally to the blood request and stock details, there are many blood related problem data that can be identified by the user relating their symptoms to the symptoms available in the application and the user can find the appropriate remedies for the basic problems. the user can also get appointment to a suitable doctor to visit

Technologies and Tools

Development Tools

- ANDROID STUDIO
- XML
- JAVA
- Notepad
- DBMS
- MySQL
- Windows 10
- CSS
- JavaScript
- JQUERY
- JSON
- PHP

Advantages

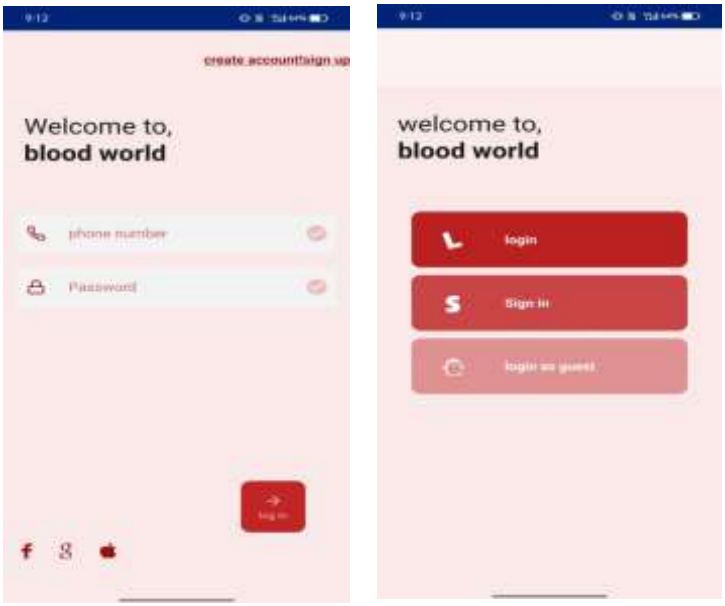
- There are two access namely domain and user
- The updations are can be done by the blood center as they have the domine access
- User can locate the nearest blood donation center available
- Instantly the information can be modified/updated by the blood centers
- Emergency blood request can be made
- Sign-in with verification make application more trustable
- Remedies for the basic blood problem are available
- Appointments with the suitable doctor can be done.
- Bloodstock of the appropriate blood center are available.

Limitations

- After accepting the request if the user does not approach the blood bank then disappointment is created.
- Internet Connection is mandatory to view the recent updations made by the domain

Copyright The Author(s) 2023.This is an Open Access Article distributed under the CC BY license. (http://creativecommons.org/licenses/by/4.0/)

International Journal of Information technology and Computer Engineering
ISSN: 2455-5290
Vol: 03, No. 02, Feb -Mar 2023
http://journal.hmjournals.com/index.php/IJITC
DOI: https://doi.org/10.55529/ijitc32.1.8



Prototype

When the user downloads the blood world mobile application from the playstore and opens it, this is the first page seen by the user. In this page there are sign-in, log-in and guest options to get into the home page. the user can register to the application via their mobile number and can be verified.

After the successful registration and verification the user can log-in to the application with their registered mobile number and the password they chosen on the time of signing up

The user can see all of the information when he provides it at the time of registering to the application. all of the collected information is shown to the user in the profile page which can be modified by them.



Copyright The Author(s) 2023.This is an Open Access Article distributed under the CC BY license. (http://creativecommons.org/licenses/by/4.0/)

International Journal of Information technology and Computer Engineering
ISSN: 2455-5290
Vol: 03, No. 02, Feb -Mar 2023
http://journal.hmjournals.com/index.php/IJITC
DOI: https://doi.org/10.55529/ijitc32.1.8



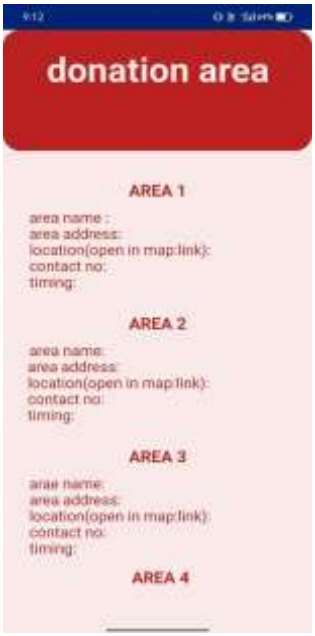
The main page of the application is the homepage where all of the options like request making and viewing, donation area , blood stocks and blood problems are displayed. the user can select and go to the respective page.



Copyright The Author(s) 2023.This is an Open Access Article distributed under the CC BY license. (http://creativecommons.org/licenses/by/4.0/)

International Journal of Information technology and Computer Engineering
ISSN: 2455-5290
Vol: 03, No. 02, Feb -Mar 2023
http://journal.hmjournals.com/index.php/IJITC
DOI: https://doi.org/10.55529/ijitc32.1.8

When the user clicks the stock availability option in the home page ,this page is displayed . here the blood bank id, address of the blood bank and location available. by clicking the vies stocks button the user can see the blood stock available on the respective bank



When the user clicks the donation area option in the home page, this page is displayed. Here the area location, and donatable timing and even location of the area is available.



Copyright The Author(s) 2023.This is an Open Access Article distributed under the CC BY license. (http://creativecommons.org/licenses/by/4.0/)

International Journal of Information technology and Computer Engineering
ISSN: 2455-5290
Vol: 03, No. 02, Feb -Mar 2023
http://journal.hmjournals.com/index.php/IJITC
DOI: https://doi.org/10.55529/ijitc32.1.8

When the user clicks the problem option in the home page, this page is displayed. Here the basic blood problems are shown with their symptoms. that the user can compare to his/her symptom and get identified. by clicking the view more button in this page the user is shown with more information, such as remedies and even the doctor consultant appointment can be made.

Test

The blood world application is tested in the first phase and all of the bugs are fixed. here the application is updated often in a periodic manner and all of the identified bugs will be fixed. all limitations will be fixed on the further updates.continues maintenance will be provided by the developer to machine security management and new features might be implemented on updates.

2. CONCLUSION

Donating blood has many benefits to the donor as well as the recipient. This application makes it very simple with its powerful features.It saves the time of users to search for the donation camp to make the blood donation. In the emergency situation for blood requirement, this application helps to get communicated with the mutual users all over the region. This is one of the best life saving mobile applications.

3. REFERENCES

1. Brislin M.R.A et al. (2017), 'Blood Donation and Life Saver App', 2 nd Int. Conf. on Communication and Electronics Systems (ICCES), DOI:10.1109/CESYS.2017.8321318, pp 446-451.
2. Deepak R, Dhivya B,Nithya K,Veyyone M, Vikneshkumar D, Futuristic Design Thinking based application for Ambulance service

Copyright The Author(s) 2023.This is an Open Access Article distributed under the CC BY license. (http://creativecommons.org/licenses/by/4.0/)