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SMART BLOOD DONATION WITH TIME CALCULATION USING MOBILE APPLICATION

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ABSTRACT

Modern technology has allowed the globe to expand dramatically in every way, and the healthcare system should follow suit. However, the manual search for donors still takes a lot of effort and visits to blood bank locations in order to discover the appropriate donors. So we proposed this system, which consists of a mobile application that uses the internet and can be used by anybody with a basic understanding of mobile technology to locate donors and donate blood to those in need. By using this Mobile Application user i.e either donar or receiver needs to create an account with their basic details. After successful login they need to select the location of the donar. If the receiver found with same blood group then he can send the Request for seeing blood. Before Requesting a blood in this system we are providing security to female persons. By accepting some terms only we can request the female donars. So It will trigger the Notification to particular person. If the donar accepts it then the receiver can receives the blood and get the reward points.

INTRODUCTION

Blood donation is a vital part of worldwide healthcare. It relates to blood transfusion as a life-sustaining and life-saving procedure as well as a form of therapeutic phlebotomy as a primary medical intervention. Blood donation is an important part of healthcare system and people's life in today's world. Blood donation saves millions of lives every year. Blood donation is a safe and straightforward process that typically takes less than an hour to complete. Donors are screened to ensure that their blood is healthy and safe for transfusion, and the donation process itself involves the collection of a unit of blood through a sterile needle. Donors are encouraged to eat a healthy meal and drink plenty of fluids before and after donation to help their bodies replenish the lost blood.

PROBLEM STATEMENT

Many applications are developed on this blood donation, but people are still following the manual process to find out the donors by roaming every places they know, and by contacting people manually, requesting in blood banks and else. But the system we plan to implement can reduce the time taken by people by following all manual methods. They simply find out the people by entering the required blood group and by selecting their location they find out the people in near by locations in their timely basis. Agile methodology is a routine used for the development of the project which supports the respond to the volatility of building software through incremental, iterative work pace. A mobile application is developed using agile techniques.

LITERATURE SURVEY(PAPER-1)

Title,Author name,year	Blood donor searching android application, A.Divya,2022
Abstract	Blood Donor Searching Android Application is to save lives of the people by providing blood and was developed so that users can view the information of nearby donors. This project is developed by two perspective i.e. Receiver and donor. It provides security for authenticated user as new user have to register according to their type of perspective and existing user have to login.
Objective	To select the near by donor online instantly by tracing its location using GPS.

PAPER-1...

Methodology	Contains user and donor modules so the people found the donor using this application. User and donor will login to the application with their respective modules by giving their details according to details required by the application to login.
Conclusion	The blood donation center data framework was created out of a need to make observing blood supplies or a willing benefactor on schedule and involving lesser time in looking for both of the two.
Results	This framework ought to be made accessible to everybody since it will help the pursuit of blood supplies doing crisis cases quicker.

LITERATURE SURVEY(PAPER-2)

Title,Author name,year	Blood donation support application: contributions from experts on the tool's functionality, Joélia Rodrigues da Silva,2021
Abstract	Blood donation is a social practice that helps treat diseases and maintain public health. The DoeSangue application was designed and developed to support donor recruitment and loyalty, strengthening health promotion and social engagement.
Objective	The main objective the information is adequate for guidance in the blood donation process as well as clarification of the target audience's doubts.

PAPER-2...

Methodology	This application makes the way better and easier communicate between the donor,receiver,blood bank,and hospital.so the people can easily found the donor in hospital or blood bank and even hospitals can find the blood group they want.
Conclusion	Achieving the application's objectives, structure and functionality from experts' perceptions.
Results	These were gathered at a public blood center according to the degree of technical knowledge, time of experience in the field, interest and availability to collaborate with the study.

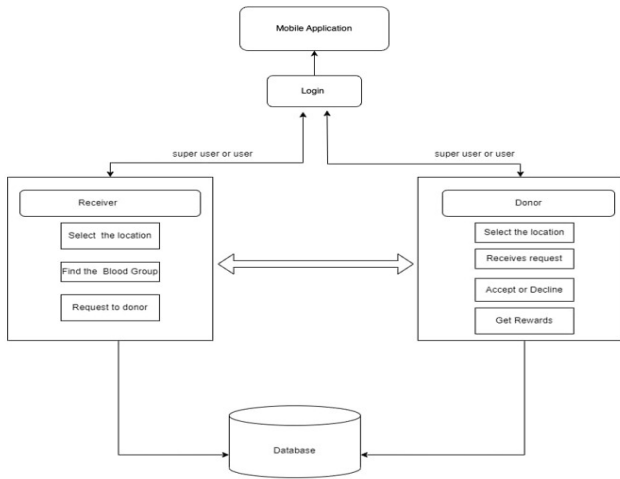
METHODOLOGY

- Agile methodology allows mobile app development teams to be more flexible in their approach to development. Instead of following a rigid plan, the team can adapt to changing requirements and market conditions as they arise, resulting in a more responsive and adaptable development process.
- Agile methodology encourages continuous improvement throughout the development process. By focusing on delivering small, incremental improvements to the app, the team can quickly identify and fix issues, resulting in a higher-quality app overall.

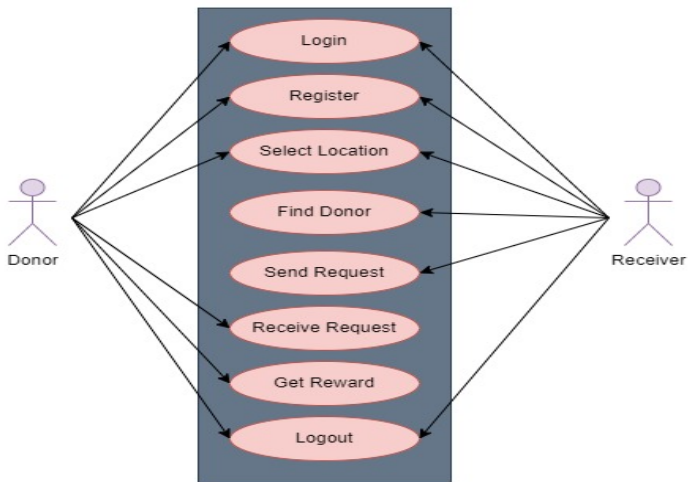
METHODOLOGY

- If user is a new he/she create a account by using given credentials.
- After login to the account it asks whether user is a super user or normal user
- User have to select the location.
- If user wants blood he can select the donors by using the nearby location and send request to the donor.
- Once the request is sent to the donor, the donor is accepting by given credentials.
- If donor is female then there is a accommodation and donor is male it is optional.
- The donor is donating blood to the user, after receiving blood from the donor he can give feedback and get reward points.

ARCHITECTURE



USE CASE DIAGRAM



ACTIVITY DIAGRAM



FRAMEWORK

FLUTTER

- Flutter is an open-source mobile app development framework developed by Google. It allows developers to create high-quality, native mobile apps for both Android and iOS platforms from a single codebase.
- Flutter uses Dart, a statically typed language developed by Google, as its programming language. Dart offers a simple syntax and a fast performance that allows developers to write code that runs smoothly and efficiently.
- Flutter is easy to create beautiful and responsive user interfaces.
- Flutter is a powerful and flexible technology that allows developers to create high-quality mobile apps quickly and efficiently.

PROGRAMMING LANGUAGE

DART

- Dart is a programming language that is used to build mobile apps, web apps, and server-side applications.
- Dart is a statically typed language, which means that the types of variables are checked at compile-time rather than at run-time. This helps catch errors early in the development process and makes the code more reliable and maintainable.
- Dart is used to create UI components in Flutter, such as buttons, text fields, and sliders. Dart's support for classes and interfaces makes it easy to create modular, reusable code for UI components.

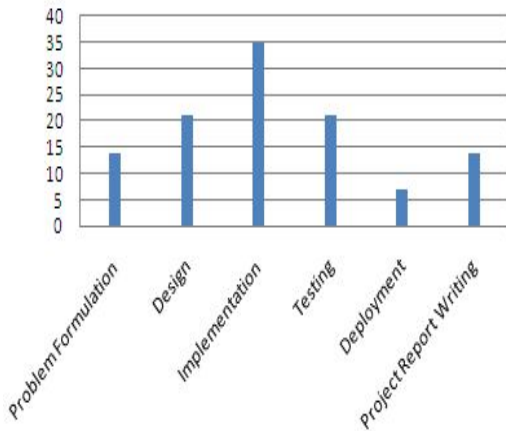
BACK-END

FIREBASE

- Firebase is a back-end technology platform developed by Google that provides a range of services for building and managing the back-end of web and mobile applications.
- Firebase provides built-in authentication services that allow developers to easily authenticate users with email and password, phone numbers, or popular third-party providers like Google, Facebook, or Twitter.

GANTT CHART

Time Schedule of the Project



CONTRIBUTION OF THE CANDIDATE

Project Associate (PA)	Problem Formulation	Design	Implementation	Testing	Deployment	Project Report Writing
PA1 19K61A1251	Yes	Yes	Yes	Yes	Yes	Yes
PA2 19K61A1226	Yes	Yes	Yes	Yes	Yes	Yes
PA3 19K61A1235	Yes	Yes	Yes	Yes	Yes	Yes
PA2 19K61A1213	Yes	Yes	Yes	Yes	Yes	Yes

HARDWARE/SOFTWARE IMPLEMENTATION

- Donor Module
- Receiver Module

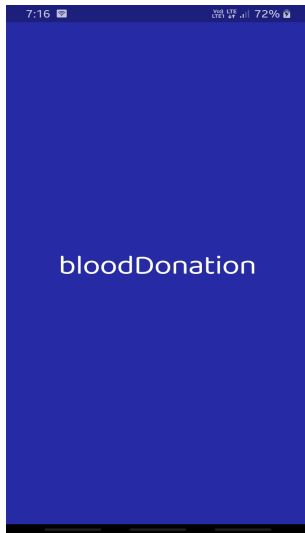
DONOR MODULE

- The donor should register and create an account in this application by entering his details as a super user or normal user.
- The donor can select the location and the required blood group type.
- In-case if someone requests his blood then he receives a notification by showing the details of the person who is requesting blood and the time and date when he wants to donate blood
- He can accept or reject by his own interest.
- If the donor is female then accommodation cost is provided by the receiver
- In case if he/she accepts and donate the blood, he will get the reward points.
- The user can act as either donor or receiver based on his times

RECEIVER MODULE

- The receiver should register and create an account in this application by entering his details as a super user or normal user.
- The receiver can select the location and the required blood group type.
- He will search for the donor of required blood group type and by accessing the location he finds the people by nearby places.
- After finding the donor with required blood group and place the receiver send the notification to the donor.
- Donor accepts the notification and donate blood to the receiver. Receiver will give feedback to the donor.
- Receiver also found the nearby hospitals in the map available in the application

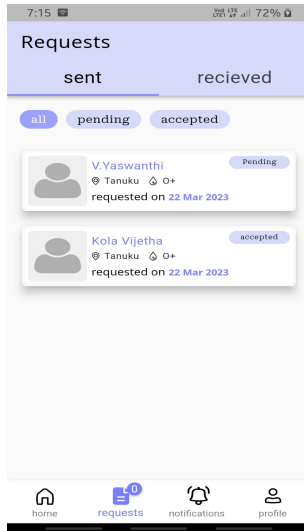
EXPERIMENTAL RESULTS



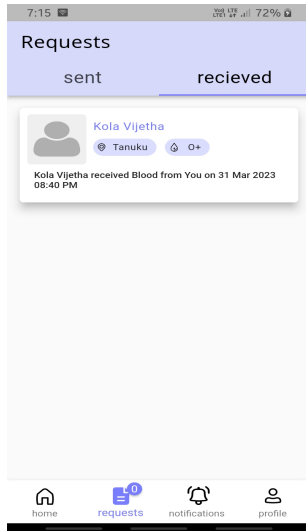
EXPERIMENTAL RESULTS



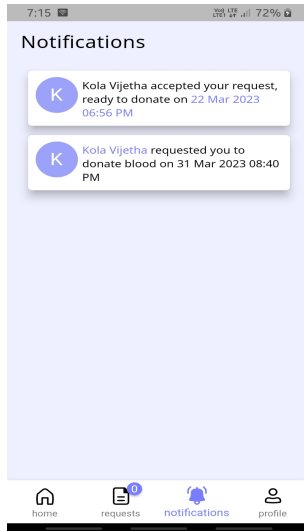
EXPERIMENTAL RESULTS



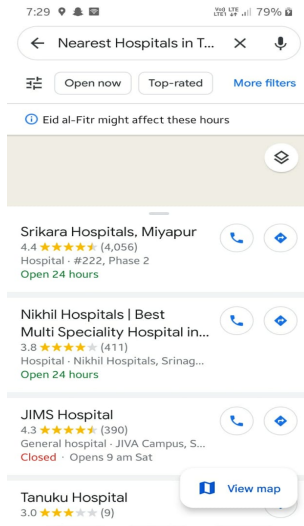
EXPERIMENTAL RESULTS



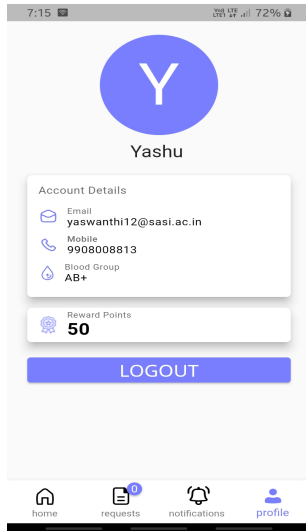
EXPERIMENTAL RESULTS



EXPERIMENTAL RESULTS



EXPERIMENTAL RESULTS



COMPARISION WITH EXISTING SYSTEM

Now a days the demand for blood donation are increasing rapidly because people are relocating various places for blood. But now a days everyone is following manual process for finding the blood so that the users consumes a lot of time. The system will help the people to find the donors of relatable blood group directly by using the application. The user can register into the system as donor or receiver and by accessing the location he can the reciever can find the near by donors using gps. The donor details was available only after 90 days of his donation history.

CONCLUSION

The system proposed was used by the people in their critical times to find the donors for their loved ones. The user has to create an account in the application by entering his details like name, email address, phone number, blood group. By selecting the location, he can see the donors of the specified blood group in nearby areas and he can send a request to the donor by specifying date and time and he gets the donor details after the donor accepts the request. The donor got a reward for donating and his details were available only after 90 days after donating only. This helps to reduce time to find donors through blood banks and hospitals. It makes the process automated in finding donors.

SCOPE FOR FUTURE WORK

In the future we are planning to add ambulance facility to take the user or patient to near by hospitals in time and we are planning to make the application available in different languages,so any type of user can easily access it.Connecting to blood banks also developed in future.The donor we get some rewards or gifts after successfully getting some reward points.

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ANY QUERIES

THANK YOU