Ideation Phase

Literature Survey

Date	11 October 2022
Project Name	Plasma Donor Application
Marks	2 marks

OBJECTIVES

- To develop an application which will act as a helping hand for the patient who was in need of the plasma.
- The main objective of the proposed solution is to create database to store the donor details and to notify them upon receiving request from the patient.
- To develop an application which having great responsive user interaction.
- To create a user-friendly application for saving the lives which are in the danger.
- To increase the plasma donors using by minimizing the procedures of plasma donation.

ABSTRACT

- During the COVID 19 crisis, the requirement of plasma became a high priority and the donor count has become low.
- In regard to the problem faced, an application is to be built which would take the donor details, store them and inform them upon a request.

LITERATURE SURVEY

Paper 1: Blood donor app usage behaviour and perceptions: Considerations for a blood donation app (Andrea Potgieter, May 2022)

This article aimed to determine whether South African blood donor app usage behaviour and perceptions were conducive to introduce a blood donation app, and what these behaviours and perceptions could reveal, to support South African Blood Donation Organizations in their recruitment and engagement endeavours. The research problem discussed in this article sought to highlight the app usage behaviour of blood donors, and their perceptions about a proposed blood donation app. forming part of a larger sequential mixed-methods study, the data presented in this article were gathered through a quantitative online questionnaire involving 2154 South Africans

respondents. The value of this research lies in the insight gained into the behaviour and perceptions of South African blood donors, which can inform the conceptualization and design of a blood donation app, thereby improving its efficacy and subsequently supporting the strategy of employing such a technology to increase blood donation.

Paper 2: Evaluation of the Wateen App in the Blood-Donation Process in Saudi Arabia (Tourkiah Alessa, April 2022)

The aim of this research was to evaluate the usability, user satisfaction and perceived usefulness of this blood-donation app in Saudi Arabia. A mixed-method study was conducted comprising a quantitative questionnaire with donor and qualitative semi-structured interviews with healthcare professionals. Descriptive analysis was used for the quantitative data and a thematic approach for the qualitative data. Quantitative data analysis was conducted using SPSS software package 19 to calculate descriptive statistics.This blood-donation app is highly usable and acceptable among donors and healthcare professionals in Saudi Arabia, offering several benefits. Some accessibility issues were identified, along with possibilities for improving accessibility and expanding the app's functionality.

Paper 3: Location-based Mobile Application for Blood Donor Search (Fernando Alex Sierra-Linan, January 2022)

The research proposes the development of a location-based mobile application for blood donor search (DONAPE), for which the mobile application provides a direct location-based channel between blood seekers and blood donation centers. Achieving to increase the number of donors, improve the place of origin (geographical location) of donors and improve the search time. They chose to use the agile Scrum method to develop the project prototype. This method has 5 phases: initiation, planning and estimation, implementation, review and retrospective and launch, for the development of this project. In web and mobile applications were developed to manage blood donation, allowing to register, schedule, receive notifications and access information, synchronizing blood donation centers with emergency centers, to verify the availability of blood needed and to send a request to the nearest blood donation center.

Paper 4: A Cross-Platform Blood Donation Application with a Real-Time, Intelligent, and Rational Recommendation System (Rashik Rahman, September 2021)

In this research work, they have designed a real-time, intelligent, and rational recommendation system using sentiment analysis of the user’s feedback, response rate of the donor, and the current geo-location information and finally develop a cross-platform application for blood collection and distribution system. To process and generate features from the user feedback, they have designed a Bi-directional LSTM-based deep learning model. They chose the flutter framework to develop

our cross platform applications. Firebase, a Google platform for mobile and web applications, has been used in the proposed application for authentication man. The quality of the recommendation of the potential donors has significantly improved. Moreover, they have conducted rigorous requirement analysis from real users and evaluated the performance of the application through both indoor and outdoor testing.

Paper 5: Preferences and features of a blood donation smart phone app: A multicenter mixed-methods study in Riyadh, Saudi Arabia (Afaf Ali Batis, March 2021)

To identify the features and preferences of a blood donation smart phone app for blood donation centers and donors in Riyadh City, Saudi Arabia. This is a mixed-method study composed of a quantitative cross-sectional part (with donors, using a self-administered questionnaire), and a qualitative/quantitative part (with blood donation center staff, using semi-structured interviews). Data were collected between 15 November 2017 and 5 February 2018, from four blood donation centers in Riyadh City, Saudi Arabia. A descriptive analysis was used for the quantitative part and a thematic approach for the qualitative par

Paper 6: Instant plasma donor recipient connector web application (Kalpana Devi Guntoju, Tejsvini Jalli, Sreejauppla, June 2022)

Donor who wants to donate plasma can simply upload their recovered covid19 certificate and can donate the plasma to a blood bank. The blood bank after checking the donor certificate can make a request to the donor when the donor accepts the request, they can add the required number of units they need. The hospital can send a request to the end a request to the blood bank that needs the patient's emergency plasma and to get the plasma from the blood bank. on. After the donor login to the After running the code, the URL is displayed and the user needs to paste the URL into the browser. At the end of the URL, you need to add the donor login to open the donor page, b-bank login for the blood bank page, and h-login for the hospital page. Donors who wish to donate plasma can donate by uploading their COVID19 recovery certificate on the donor's page. If the donor is new, they must register before log in. If the donor is an existing user they need to login. Username and e-mail provided at the time of registration.